THE IRON AGE

THURSDAY, FEBRUARY 9, 1893.

The Blake New High-Duty Pumping Engine.

We present herewith cuts showing the high-duty cross compound automatic cut-off pumping engine made by the Geo. F. Blake Mfg. Company of New York and Boston. The engine is a new departure in the construction of pumping engines and possesses features of unusual interest. We give also a test made by T. W. Dean, consulting engineer for Newton, Mass., for which city this engine was built.

The engine is of the direct acting, fly-wheel, cross-compound type, having one high-pressure and one low pressure steam cylinder with two double-acting inside plunger pumps. Both high and low pressure steam cylinders are provided with a Corliss automatic valve gear. The axis of each steam cylinder coincides with that of its corresponding pump cylinder. The fly wheel is placed between the cylinders and is attached to the piston rods through connecting rods, beams and links. The air and feed pumps are driven from the beam shaft of the low-pressure cylinder. The pump cylinders are provided with a great number of small valves, giving a very large area for the passage of water to and from the cylinders.

The dimensions of the engine are as follows:

	Inches.
Diameter of the high-pressure cylinder.	21
Diameter of the low-pressure cylinder..	42
Diameter of two pump plungers.....	13½
Diameter of all piston rods	4
Stroke of all pistons and plungers.....	40
Diameter of one single-acting air pump.	26
Stroke of same.....	12
Diameter of single-acting plunger feed pump	4½
Stroke of same	6
Diameter of pump plunger for returning reheater drain to boiler.....	2
Stroke of same.....	6

Tests.

The results of tests made for the city of Newton, by F. W. Dean, M.E., September 30 and October 1, 1892, are as follows:

1. Duration of the test..... ..	24 hours.
2. Total number of revolutions.....	56,326.
3. Average steam pressure at the boiler, by gauge....	125.6 pounds.
4. Average steam pressure at the engine, by gauge...	122 31 pounds.
5. Pressure of the atmosphere.....	14.72 pounds.
6. Effective resistance per square inch on pump plungers....	105.986 pounds.
7. Steam per horse-power of steam cylinders per hour.	13.97 pounds.
8. B. T. U. per horse-power of steam cylinders per minute.....	253.
9 Horse-power of pump plungers.....	229.23

Water Evaporated.

10. Per pound of coal from temperature of feed and at boiler pressure.....	9.91 pounds.
11. Per pound of combustible from temperature of feed and at boiler pressure.....	10.69 pounds.
12. Per pound of coal from and at 212° F.....	11.20 pounds.
13. Per pound of combustible from and at 212° F.....	12.08 pounds.

The following table shows the result of the analysis of the George's Creek Cumberland lump coal used. The calorific value as determined by a Thompson calorimeter was 13,452 B. T. U., and as shown from the evaporation during the test, 10816 8 B. T. U.

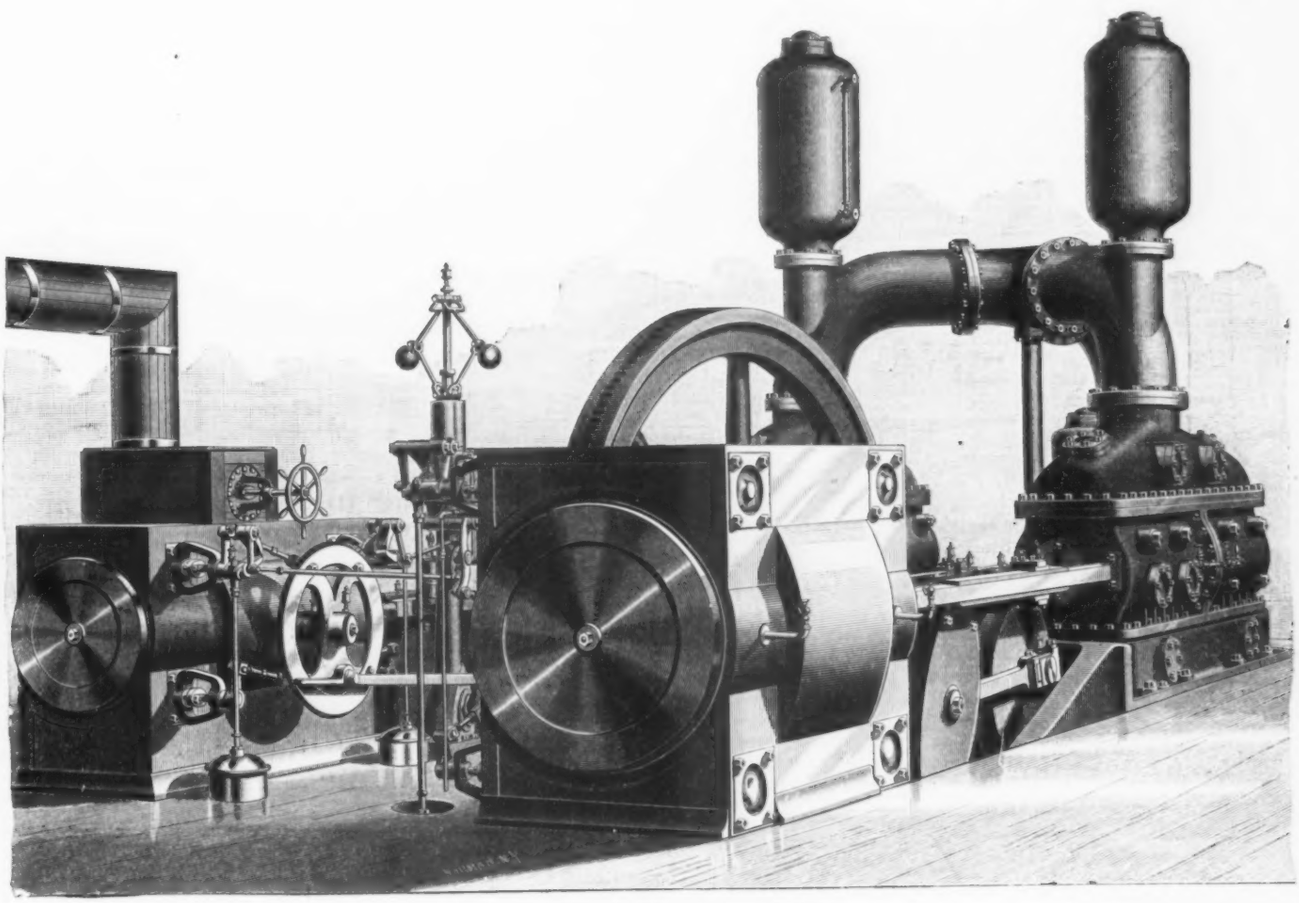
	Per cent.
Moisture.....	0.58
Carbon.....	79.40
Hydrogen.....	5.11
Oxygen.....	3.80
Nitrogen	1.25
Ash.....	9 24
Volatile sulphur....	0.62
Total.....	100.00

Duties Based Upon the Heat Received and Rejected by the Engine.

	Foot-pounds.
14. Per 1,000,000 British thermal units.....	119,406,777
15. Per 1100 × 965.8 B. T. U., Newton co-efficient.....	126,855,372
16. Per 100 pounds of coal burned	129,162,443

Duties Based Upon the Heat Given to Each Pound of Water Fed to the Boiler.

17. Per 1,000,000 British thermal units.....	118,128,445
18. Per 1100 × 965 8 B. T. U., Newton co-efficient.....	125,497,323
19. Per 1000 pounds of water fed to the boiler.....	128,928,397
20. Per 100 pounds of coal burned.	127,779,469



THE BLAKE NEW HIGH-DUTY PUMPING ENGINE.

Probably the largest locomotive ever constructed will be placed upon the New York Central & Hudson River Railroad

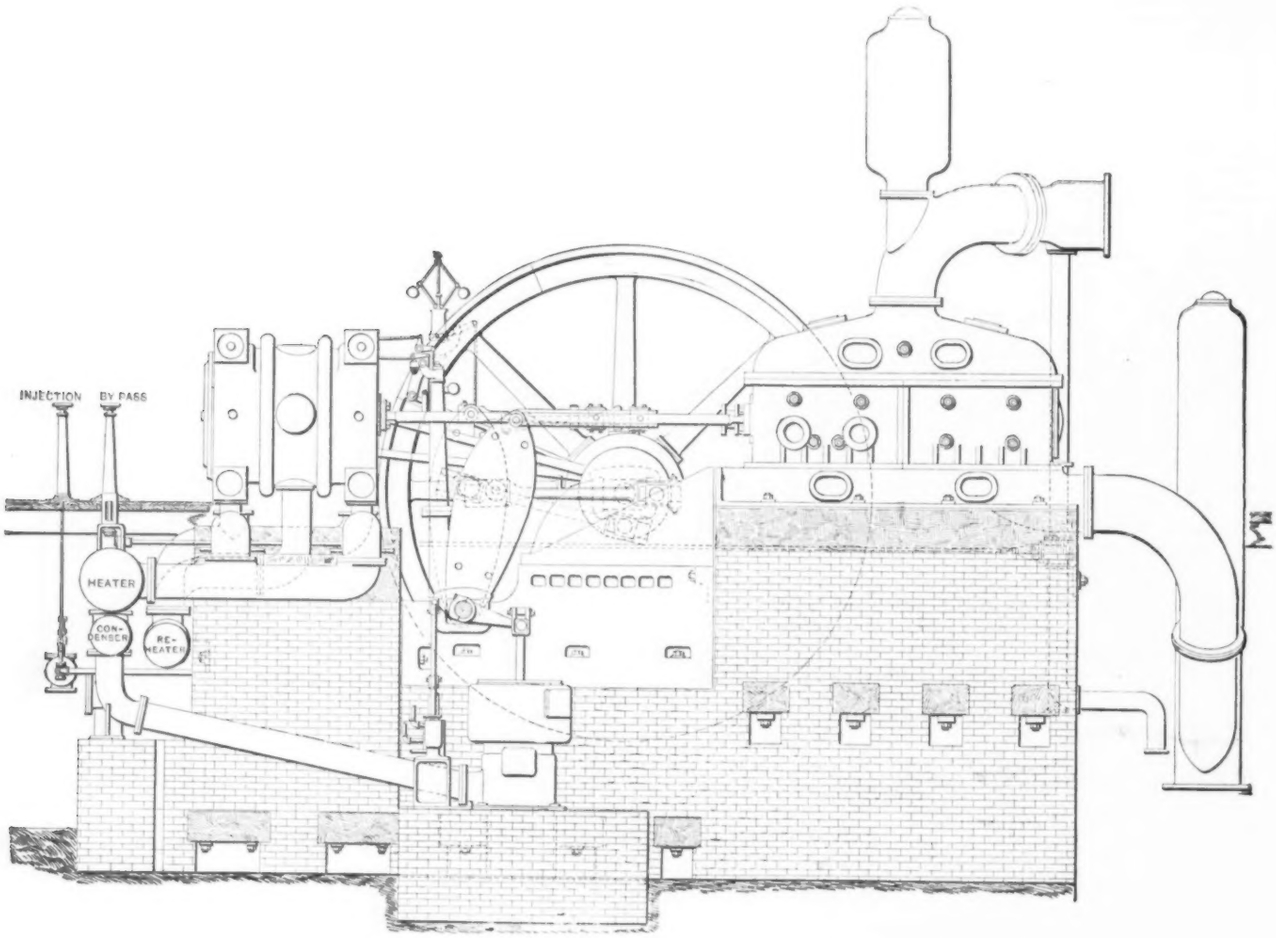
within a short time. It is intended by the company for exhibition at the World's Fair, and after that will be put in active service. The new locomotive will be built at the company's West Albany, N. Y., shops. It is proposed that it shall be superior in propelling power to anything yet constructed. The best mechanical engineers are now at work on what is known as the Buchanan design, water arch. The machine will be much larger than even the locomotives now used on the Empire State Express. Its cylinder will be 20 x 26 inches, and it will have wheels 7 feet 6 inches, the same size as those now used in the monster No. 903. It is estimated that the new engine will maintain a speed of more than 82 miles an hour. It will have 334 3½ inch tubes. The boiler will be of ⅝ Bessemer steel, and the main steam pipe will be 16 inches in diameter and of seamless steel tubing. The forward and back axles will be 10 inches in diameter and the smaller one 8 inches. The journals will be mounted on 48-inch wheels. The wheels on the tender will be the same. It will be equipped with the latest styles of train signals, brakes and couplers. The locomotive when completed will stand 22 feet 6 inches from the rail to the top of the stack. Its length will be 87 feet 6 inches. The engineer's standing board will be 12 feet 10 inches above the rails. The tank will have a capacity of 4800 gallons, which is 700 gallons more than those now in use. Its weight when ready for service will be 94 tons.

Following the shipment of anthracite coal to Berlin, last autumn, the Reading Railroad Company have just sent 50 tons to Genoa, hoping to open a market for the product both in Germany and Italy.

Removal of Plano Manufacturing Company.

The event of last week in Chicago manufacturing circles was the decision of the Plano Mfg. Company to remove their works from the village of Plano, Ill., to West Pullman, a Chicago suburb. The removal in itself is one of the most important which has been made for some time, and will take rank with the establishment of the Washburn & Moen plant at Waukegan and of the Grant Locomotive Works in Cicero. The manufacturing company are given a site for their plant of 25 acres east of Center avenue and north of 121st street, which is the line of the West Pullman Branch of the Illinois Central Railway.

The negotiations leading up to the removal have been pending for some months between the Land Association and W. H. Jones, president of the Plano Company. The Plano Company were organized 11 years ago by C. W. H. Jones, L. B. Wood and E. H. Gammon, who was, prior to the organization of the new company, a partner in the William Deering Company, which then had their works at Plano. The company have been one of five or six large concerns which have made a specialty of harvesting machinery. At present about 600 men are employed. During the first year of the company's existence 250 harvesters were made, while in 1892 43,865 machines were built The works at Plano comprise 20 buildings, one and two stories in hight, covering a ground space 900 x 700 feet. They are directly on the right of way of the Chicago, Burlington & Quincy Railroad. The desire to secure better shipping facilities has influenced the company to move from a point outside of Chicago to the city proper—a careful canvass was made of the advantages offered by the various manufacturing towns in the outskirts of the city, which resulted in a final choice of the West Pullman site. The entire 25-acre tract is to be covered with the buildings to be erected by the company, and the side tracks necessary to give the plant communication with the terminal system owned by the Land Association and with the three railroads which cross the town. The branch lines of the Illinois Central and Rock Island both cross from east to west, while the line of the Pan-Handle crosses from north to south. It is estimated that something like $600,000 will be expended in the construction of brick and stone factory buildings.



THE BLAKE NEW HIGH-DUTY PUMPING ENGINE.—SIDE ELEVATION.

The contract between the two companies in interest provides for the erection of an office building at West Pullman and the removal of the office force from Chicago. The site of the proposed plant is just west of the Carter White Lead Works, and the same factory district with the White & Ballard Shoe Company's factory and the plant of the Burgland & Shead Woodenware Company.

W. J. Edbrooke, supervising architect of the Treasury Department, and Frank Erygla, inspector of public buildings, visited the Pacific Rolling Mills, at Potrero, California, to witness the manufacture of steel beams, with a view to their use in the new post office at San Francisco.

Every iron and steel plant in Muncie, Ind., is now closed, owing to a strike of labor organizations.

Possibilities in Utilizing the Power of the Wind.

BY G. D. HISCOX, M.E.

The direct application of wind power, except for the propulsion of vessels, apparently first began about the seventh century, but for any real usefulness dates no further back than the twelfth century, at which time the windmill had a most crude form. It was inefficient, and required to be directed to face the wind by manual labor. The next 400 years found but little improvement further than a slightly better construction of building and wings. Two hundred years more elapsed with only a few modifications of detail. The four great arms were retained. That allowed three-fourths of the wind passing within its area to escape without doing its work, there being a few exceptions of six and eight arm mills in the eastern part of Europe. Such mills are the leading type in Europe and the East to this day.

The American types have been sent abroad, and are fast gaining preference even in Holland, the home of windmills. They may be seen here and there in strong contrast with the creaky mills of antiquity.

In the crude form of the early centuries their effective power was of the lowest order and only began to improve with the dawn of modern theories and their application in physics and mechanics as developed in the nineteenth century; but the methods of construction still hamper the Old World. The new era in construction, as developed in the latter half of the present century, has given a new impulse to the value of wind-power as applied to every want. The utilization of every available foot of space within the area of revolution by the exposure of numerous blades at the best angle of impact to the force of the wind has marked a marvelous advance in the cost and efficiency of wind-power. Then, the building of a 100-foot windmill was the work of a whole season, its arms swept the circle of 100 feet; its cost, thousands of dollars. To-day with the same breeze, the same power may be had with a mill of one-half the size, that is made on the best mechanical principles; sent out from factories to be set up and running in a few days at a cost of a moiety only of the clumsy inheritance of antiquity.

Thus by reducing the first cost of power appliance to a minimum, it places its use within the grasp of every one having a spot on which to utilize it.

Although there was a decline in the use of windmill power for ordinary milling and manufacturing purposes during the first half of the present century, due chiefly to the rapid advance in the use and increasing efficiency of the steam engine and its adaptability to immediate application to the working day; yet it still holds its own with increasing effectiveness for 24 hours' work in a day, for there is no power so cheap for water supply at the present day and within its range of power as the windmill. In its usefulness for the supply of small towns with water through a regular water works system, the windmill takes the lead for economy over even a water wheel, which in most cases requires a larger first outlay for dam, flume and wheel; but is seriously limited as to location; whereas a windmill may be located at the source of pure water, the spring no larger in its flow than for the required supply, and with nature's power equal to the work required, the windmill becomes a simple and economical medium of water supply.

As an example of what is done in this line a town of 1000 inhabitants requiring an ample supply say of 50 gallons *per capita* per day, a much larger amount than is consumed by many cities of the United States and in Europe, can be met by the work of a windmill 25 feet in diameter lifting the water into a reservoir 100 feet above the spring, or a 30-foot mill lifting 200 feet.

According to observations of the United States Signal Service the average velocity of the wind within the range of its record is 9 miles per hour for the year along the North Atlantic border and Northwestern States, 10 miles on the plains of the West and 6 miles in the Gulf States. It is a well-known fact that the pressure of the wind increases as the square of the velocity, and from observations a 10-mile breeze has a pressure of 0.492 pound per square foot of surface exposed to its force; a 15-mile breeze equals 1.107 pounds and a 20 mile (brisk wind) has 1.968 pounds pressure per square foot.

Horse-Power of Windmills.

The horse-power of windmills of the best construction are as the proportional squares of their diameters and inversely as their velocities; for example, a 10-foot mill in a 16-mile breeze will develop 0.15 horse-power at 65 revolutions per minute. A 20-foot mill with the same breeze and at 40 revolutions per minute will develop 1 horse power.

A 25-foot mill, 35 revolutions, 1¾ horse-power.
A 30-foot mill, 28 revolutions, 3½ horse-power.
A 40-foot mill, 22 revolutions, 7½ horse-power.
A 50-foot mill, 18 revolutions, 12 horse-power.

The increase in power from increase in velocity of the wind is equal to the square of its proportional velocity; as for example, the 25 foot mill rated above for a 16-mile wind will with a 32 mile wind have its horse-power increased by $\frac{32^2}{16^2} = 2^2 = 4 \times 1\frac{3}{4} = 7$ horse-power, a 40-foot mill in a 32-mile wind will run up to 30 horse-power, and a 50-foot mill to 48 horse-power, with a small deduction for increased friction of air on the wheel and the machinery.

The modern mill of medium and large size will run and produce work in a 4-mile breeze, becoming very efficient in an 8 to 16 mile breeze, and increase its power with safety to the running gear up to a gale of 45 miles per hour.

It has been often asserted that one of the great drawbacks to the general use of windmills for other than the exclusive pumping of water is the fact that when most needed the wind is at fault. This may be ever so true, but the fact that they have been so used for centuries and are largely now in use for milling purposes does not make them of less value in the view of the storage of 24 hours' work of the wind for a 6 to 10 hours' output of power at the required time.

For mechanical work that can be carried on only during the ordinary ten-hour day this becomes a serious inconvenience; but as such power is always available from 5 to 8 hours and often 12 hours in the 24, a means of storage and transmission of power from the natural source of power at any time to the time and distance required for use should be the proper recourse for rescuing an intermitting power from this difficulty, and thus make possible a uniform power of 10 hours from an intermitting power of 24 hours.

Methods of Utilizing Wind-Power.

To accomplish this much-desired object, there seem available but three practicable methods.

1. Storage of power by compressing air.
2. Storage of water by pumping into a reservoir.
3. Storage of electrical power by charging storage batteries.

The value of a windmill for power purposes may be safely rated at its average power during 24 hours, and if this power is stored in the work of compressing air during 24 hours to be utilized for power during 10 hours only, then the average work of the mill will be $(\frac{24}{10})$ 2.4 times for the 10-hour day; and as the power of a motor engine may be made, by heating the air, to develop 58 per cent. of the total value of the compressed air, then a windmill developing an average of 1 horse-power during 24 hours should give an available 1.4 horse-power during 10 hours of motor work.

To store the compressed air required to run a motor 10 hours with 24 hours' work of the compressor pump may be stated from the known fact derived from experiments and practice in this direction that 8½ cubic feet of free air per minute at 45 pounds pressure when heated from a mean temperature of 60° to 300° F., and expanded in a motor engine, is equal to 1 horse power, or 9¼ cubic feet at 212°, so that an average of 9 cubic feet of free air per minute may be assigned as required to generate 1 horse-power when it is reheated from 60° to 250° before entering the motor engine. In the extreme case of storage of compressed air for 10 hours' work provided that the windmill be idle during the working day, there will be required 600 minutes × 9 cubic feet = 5400 cubic feet of free air to be stored at an average of 45 pounds pressure, this being the most economical pressure for air power. There are four volumes of free air in one volume at this pressure, and $\frac{5400}{4} =$ 1350 cubic feet should be the capacity of the storage tanks; requiring say three cylindrical steel tanks 5 feet diameter by 25 feet in length.

A windmill of the best construction 20 feet in diameter in an average breeze is equal to 1 horse-power and should under the above conditions with an air motor develop 1.6 horse-power, which may be increased 3 or 4 horse-power in the windy season, or for a shorter run than a ten-hour day; and thus when combined with a pump for water supply become a most valued adjunct of thousands of farms and country seats, where, in addition to the water supply, a small power can be had at any time for the many uses required. Where small work is required, as for lathes and the running of machinery for manufacturing on a small scale in the small workshops of the country and towns, is where such a power will be most appreciated, by giving a safe power for small work, where steam will be not only expensive to run, but requires care and watching to keep it from self-destruction.

Estimated Cost of an Air-Power Plant.

It is estimated that such a plant for water and power purposes can be erected complete for $1800, detailed as follows:

One 20-foot windmill	$700
Frame tower 40 feet high	300
Three steel air tanks, each 5 feet diameter, 25 feet long	450
One double-acting air-compressing pump	80
One 4 horse-power motor and air heater	140
One water supply pump and connections	30
Pipe connections and fitting up	100
Total	$1800

Where the building of the tower and fitting up can be cheaply done by the purchaser this estimate can be largely discounted.

This, although apparently a high price for from 1 to 4 horse-power, is not really high when its uses and freedom from running expenses, attendance and danger are duly considered; and this is what particularly recommends wind power to every farmer, small manufacturer or country dweller. For in addition to the many mechanical uses it can be made to fill, its capacity (20-foot mill) for pumping water when not otherwise needed is most satisfactory, it being 90,000 gallons of water pumped 50 feet high per 24 hours.

For garden irrigation alone during a drought it may become a saving power. It will with proper management irrigate from 5 to 7 acres in most of the States of the Union in a dry season.

A power so universally applicable with scarcely a choice as to its place should meet with approval, and it only requires to be known as to what can be done and what it costs, to make this power sought for by every one requiring work to be done by power instead of by hand.

Water Storage of Wind-Power.

The accumulation of power by water storage is not only feasible and practicable, but when combined with storage in large reservoirs for house, farm and irrigation use, places this method in its most economical form by the simplicity of its application. Wherever a natural location for a reservoir can be found sufficiently elevated to afford a flow upon the land to be irrigated, this system can be carried out for a much larger acreage than the immediate product of the mill by carrying a storage supply over from the wet season. As the season of indoor work is generally not in the season of drought, the whole work of the mill at these times can be applied to storage for irrigation. It cannot be expected that an ordinary sized wind mill will irrigate a farm, but a garden supply of from 5 to 7 acres is of the utmost importance to every cultivator of the soil, for comfort and family needs, which are too much neglected in a large portion of the United States and especially in the Southern and Western States, where a little irrigation will add large resources to the domestic table.

By way of illustration it may be stated that the water-raising power of a 30 foot wind mill with an average wind of 16 miles per hour for 8 hours per day, developing about 1¾ horse-power and pumping to a hight of 35 feet, is 165,000 gallons, or enough water to cover 3½ acres 1 inch deep. The storage of 300,000 gallons in a reservoir 100 feet square by 4 feet in depth is not a difficult matter with thousands of farmers and planters. The banks will not be so high that they cannot be made safe with ordinary material, and even 200 feet square is within the means of many and will store a million gallons that will serve to counteract the faulty wind for the care of more than a half dozen acres at the season of most need. When required for power the 30 foot mill for 8 hours' run will furnish 200,000 gallons, or 2½ horse-power for 5 hours' work of a water engine or small turbine under 25 feet head, with an ample water reserve for other purposes.

From the reservoir of 300,000 gallons as above stated, 5½ horse-power may be utilized, and from the million gallon reservoir 7½ horse-power may be had for 10 hours consecutive run. The estimated cost of a 30-foot windmill for irrigation and water power may be briefly stated as follows:

One thirty-foot windmill	$900
Fifty foot frame tower	500
One double acting pump and pipes	175
Two and one half horse-power turbine or impact wheel	150
Earth reservoir 100 feet diameter, 4½ feet deep; about 600 cubic yards of embankment, favorably situated, with overflow, gates and pipe	450
Total	$2175

The mechanical work requiring power on a farm or plantation for grinding, sawing, threshing, cleaning grain, ginning and pressing cotton and grinding sugar cane may be made intermittent, and by the storage system allow of a large power being utilized for a short time, and thus accomplish much work by the constant accumulation from a small power that cannot be done otherwise than by special machinery.

Electric Storage of Wind-Power.

The storage of electricity for power and light from the operation of 24 hours' work of a windmill is not only feasible, but may be counted as one of the most economical and useful applications that can be made of a power going to waste. The later improvements in storage batteries and the drift of dynamo construction toward slower speeds and greater efficiency bring the limited power of the windmill into use in a line of work heretofore thought beyond its control.

Considering the volume of power as the output of a windmill, allowing an average of eight hours' work of the mill and four hours' lighting, then a 20-foot mill with an average of 1 horse-power will charge a storage battery for a half-time lighting of 2 horse-power, or at eight 16-candle lights per horse power, will produce a lighting capacity of 16 16 candle lights or 20 12-candle lights in a dwelling, enough for ordinary country houses. Such a plant with a supplementary water supply for a dwelling only will cost approximately for:

One 20-foot windmill	$700
A 40-foot frame tower	300
One 8-light dynamo and regulator	250
Appliances wiring, &c	25
A 16-light, 5-hour storage battery	200
Twenty 16-light electric lamps, fixtures and wiring	40
Pump, piping and water tank	200
Total	$1 15

A 30-foot windmill will be equal to the supply of 32 16 candle-power lamps and supply the water required for a large country house and may be scheduled as follows:

One 30-foot windmill	$9 0
A 50-foot frame tower	500
One 3½ horse-power dynamo and regulator	300
Appliances, wiring, &c	50
Thirty-two-light 6-hour storage battery	300
Thirty 16-light electric lamps, fixtures and wiring	60
Pump, piping and water tank	225
Total	$2335

The electric storage and lighting from the power of a windmill has been tested on a large scale for over three years by Charles F. Brush at Cleveland, Ohio. He has erected on the grounds of his dwelling a windmill of the most approved construction, 56 feet in diameter, that operates with ordinary wind a dynamo at 500 revolutions per minute with an output of 12,000 ampères—16 electric horse-power—charging a storage system that gives a constant lighting capacity of 100 16 to 20 candle-power lamps. The current from the dynamo is automatically regulated to commence charging at 330 revolutions and 70 volts, and cutting the circuit at 75 volts. Thus by its 24 hours' work the storage system of 408 cells in 12 parallel series, each cell having a capacity of 100 ampère hours, is kept in constant readiness for all the requirements of the establishment, it being fitted up with 350 in candescent lamps, about 100 being in use each evening. The plant has now been running over three years at a mere nominal expense for oil, repair and attention. Thus the fact proves that some things can be done that have been scouted as puerile; but it will be found in the sequel that free power is a boon, even at a seeming large outlay for gathering its force for our every-day use.

During the cross-examination of Captain Cooper of the Pinkerton service, in the trial of Jack Clifford, at Pittsburgh, 3d inst., Judge Stowe stopped the attorneys for the defense, who were seeking to show that the Pinkertons were trespassers at Homestead. The judge said: "I won't allow such questions. The men were going to Homestead on a lawful errand, and had a right to go. These rioters had no business there. Even if the Pinkertons had been going there to take that mill by force they were justified in doing so, and no one had a right to dispute it in this court, and you may as well understand that now. Such ideas as you attempt to advance never have been the law, are not the law, and I hope never will be the law. It is anarchistic to advance such sentiments, and I will allow no one to advance such ideas here."

Bessemer Steel and Rail Production.

The American Iron and Steel Association has published the usual statistics of the production of Bessemer steel ingots and steel rails of all weights and sections in the United States in 1892, except the comparatively small quantity of rails made by other manufacturers from purchased blooms. In our statistics of ingots we include the production of the few Clapp-Griffiths and Robert-Bessemer plants and also the production of steel castings. The total production of ingots in 1892 was the largest in our history, exceeding the large production of 1890, and the production of rails was much larger than has generally been supposed.

The following table gives the production of Bessemer steel ingots in each half of 1892 and the total production in that year compared with the total production in 1891. We add to the table a statement of the ingots produced by the Clapp Griffiths works alone.

States—Ingots.	First half 1892 Gross tons.	Second half 1892 Gross tons.	Total 1892. Gross tons.	Total 1891. Gross tons.
Pen's'lvania	1,218,504	1,169,508	2,388,012	2,048,330
Illinois	437,067	443,167	880,234	605,921
Ohio	200,946	211,036	411,982	333,666
Other States	202,411	278,333	480,744	259,500
Totals	2,058,928	2,102,044	4,160,972	3,247,417
Clapp-Griffiths only	36,974	30,552	67,526	65,389

The total production of Bessemer steel ingots in 1890, the year of largest production prior to 1892, was 3,688,871 gross tons, which was 472,101 tons less than in 1892.

The total production of Bessemer steel rails in 1892, with the exception above noted, was 1,458,743 gross tons, an increase of 219,350 gross tons over the production in 1891. The following table shows the production in each half of 1892 and the total production of the year compared with that of 1891, with the exception above noted for both years.

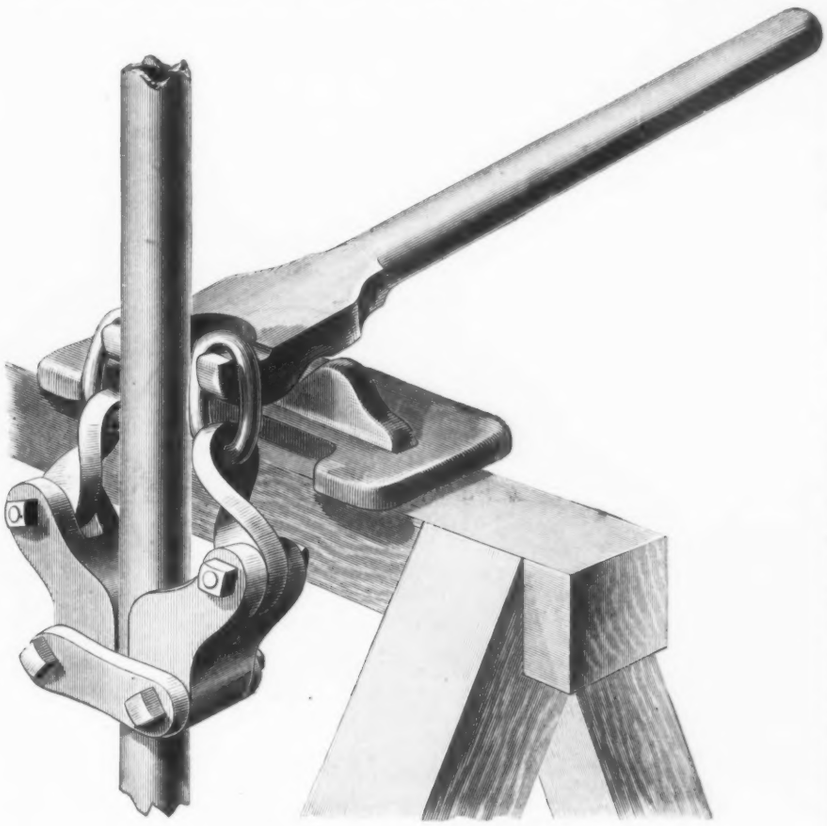
States—Rails.	First half 1892 Gross tons.	Second half 1892 Gross tons.	Total 1892 Gross tons.	Total 1891. Gross tons.
Pen's'lvania	474,018	411,634	885,652	849,516
Illinois	240,925	209,628	450,553	364,725
Other States	57,493	65,045	122,538	25,112
Totals	772,436	686,307	1,458,743	1,239,393

The production of Bessemer steel rails by the Bessemer steel manufacturers in 1890 was 1,797,489 gross tons. The production of 1892, while much larger than that of 1891, was 338,746 tons less than that of 1890.

Another armor-plate test is to be made at Indian Head. The plate to be used is 14 inches in thickness, the heaviest which has yet been treated by the Harvey process. A 10-inch breech-loading rifle will be used, and five shots will be fired, as has been the case of the preceding armor-plate trials. A velocity of about 1700 tons will be used for the 500-pound projectile thrown by the gun.

The Royce Well Puller.

The construction and operation of this device, which is made by W. A. Royce of Newburgh, N. Y., are clearly shown in the engraving. The lower ends of two elbow-shaped levers are connected by two links and to the upper end of each lever is attached a two-link chain with which the lifting lever engages. The lifting lever is 39 inches long and its length may, if necessary, be increased by the addition of a 2-inch iron pipe. The facing surfaces of the gripping levers are concaved in order to fit and at the same time prevent crushing the pipe. The fulcrum plate rests on a very stiff block of the same length and width as the plate, but quite thick to obviate bending, and has a small narrow groove across its middle under side. The



THE ROYCE WELL PULLER.

next under block is of any handy length and width, but stiff, and has one or more small narrow grooves cut across one side and intended to hold a piece of 1-inch round iron bar laid in the groove, and on which the groove in the top bar is placed. The iron bar thus makes a fulcrum on which the top block and iron fulcrum keep their place and equalize the strain on the two prongs of the steel lever, which otherwise might be unbalanced.

John Lundie, Chicago representative of the King Bridge Company of Cleveland, has secured the contract for the Chicago, Peoria & St. Louis Railroad Co.'s bridge across the Illinois River at Havana, Ill. The Bridge will be built under the supervision of E. L. Corthell, engineer. It will consist of a swinging span of 360 feet, a fixed span of 250 feet and a plate girder span of 100 feet. The plate girder will be one of the largest, if not the largest, ever made, having a web of 8 feet 4 inches.

The electric car heater has at length materialized in the shape of a cylinder of iron network, within which there is a coil of charged copper wire. A car on the Lynn and Boston street railroad is fitted out with one on trial

A New Design for Railroad Trains.

Frederick U. Adams, a Chicago inventor, has patented a number of improvements in the construction of railroad trains which he claims will revolutionize the present method of operating railroads. These improvements consist of providing locomotives with a wedge-like front which will present less resistance to the atmosphere, closing up the passages between cars so that the entire train will present a perfectly unbroken surface to the force of the wind, and removing from other portions of the train any flat surfaces usually placed so as to catch the full force of wind pressure. He makes the following claims, based solely on the changes made by him in the designs of the cars:

The heavy engine is not a necessity. A locomotive weighing sixty tons can haul a train of ten cars constructed after my designs up ordinary grades and around moderate curves, at speeds of 60, 70 and 80 miles an hour. I can take one of the little, old-fashioned engines—which was rejected twenty years ago—attach it to a train constructed on scientific principles and beat the time of any limited express or fast mail train in the country. The locomotive of the future will be designed to haul a train constructed to minimize atmospheric resistance, and will not be compelled to force a series of perpendicular flat surfaces against the dense medium through which it is passing. Locomotives will probably have 8 or 9 foot driving wheels, and will run over 100-pound rails laid on a solid roadbed. Then, and not until then, will be realized the "engineer's dream of 100 miles an hour."

He says that, elated by the discovery of the availability of steam as a motor in land transportation, "the architect of the first railroad train designed it so that it offered the greatest possible resistance to the medium through which it had to pass. Nearly a century has rolled by, and great minds have elaborated his design. A train has been evolved which stands as an embodiment of unscientific form in railroad construction. What is that construction? Every schoolboy knows that a flat surface offers the greatest resistance to the wind, and that this resistance decreases in proportion as the angle decreases from the right angle. This, one of the simplest and best understood of all philosophical facts, has been ignored by railroad engineers and car builders. The train of to-day is a succession of planes, held perpendicularly to the line of resistance."

It is impossible to deny that Mr. Adams' reasoning is sound, and that great advantages would be derived from such changes in construction as he recommends. A radical departure, however, is not likely to be made at once by builders of locomotives and cars, even if they were thoroughly convinced that much was to be gained in operating economy and efficiency by adopting the new form of construction. Conservatism stands in the way, and only a series of exhaustive successful experiments by a railroad company would bring about such an innovation. Mr. Adams, however, reasons in such an interesting manner on this subject that we add a further line of argument brought forward in behalf of his views:

Is it not time to conform to one of nature's plainest laws? In startling contrast to the blindness displayed by railroad "economists" is the wisdom and engineering skill exhibited by the builders of steamships. The naval architect has been studying the lines along the hull of his boat, seeking to discover how a pound of resistance can be saved by changing its contour the fraction of an inch. Had he followed the policy of the railroad engineer he would have constructed a boat with flat, square bows like a scow and made frequent indentations along the sides, ending with a square stern. Below the water line he would have thrown out all possible obstructions and then called on builders of marine engines to produce powerful enough machines to reach a speed of 25 knots an hour, when 10 would be the limit. This comparison may seem grotesque, but it is not unjust. Between two coupled cars is a space of 7 feet or more, into which rushes a maelstrom of resistant air. Under the bottom of the car a score of rough parts strike against the air and impede the train's progress. The roof of the car is constructed with abrupt surfaces and projecting coverings for platforms. Each of the 30 or more windows is recessed in the side of the car from 2 to 3 inches. Many cars have their sides ornamented with panels, the moldings on which project fully ¾ inch. Designers of yachts discarded the panel system below water line many years ago. In some cars of special construction bay windows have been added. In the summer months "cinder breaks," thin strips projecting from 6 to 8 inches, are tacked on the car.

A yacht or steamship designed on the lines indicated in the first section would beat no records. There is not a projection or indentation which cannot be avoided, and which does not absolutely disappear in a construction on lines which are indicated in the other figures.

Critically observe the conduct of a passenger train from the time it pulls out of a station until it attains a maximum speed. The engineer receives the signal to go ahead. He opens the throttle. The locomotive has a brief struggle in overcoming the train's inertia. With hardly another effort the speed is increased to ten miles an hour. At this point the engineer may pull the throttle back a notch; but it is easy work up to 20 miles an hour. Then it is that some powerful retarding influence begins to be felt. What is it? Assuming that the run is being made on a straight and level track there are but three forms of resistance worthy of consideration—wheel, axle and atmospheric friction. There is nothing to prove that the friction of either wheel or axle increases with speed. On the contrary, it is claimed by good authorities, basing their statements on experimental proof, that these two forms of resistance are greater, both absolutely and relatively, at low speeds than at high ones. But at 20 miles an hour something is drawing on the capacity of the locomotive. At 30 miles this "something" becomes more marked; at 40 miles the stoker is a busy man, and at 60 miles an hour the ponderous locomotive has exhausted every pound of its power in overcoming the resistance of this mysterious "something." A hurricane is seemingly sweeping past the train, tugging with a giant's strength against every projecting surface. The train is held as in a vise. The slightest additional increase in speed is made at the cost of prodigious effort. The atmospheric resistance is increasing with the square of the velocity. That is the solution of the problem.

American Turbine Water Wheels.—III

BY SAMUEL WEBBER, CHARLESTOWN, N. H.

One of the earliest types of development from the old wooden "tub whee's" was the cast-iron "scroll wheel," so called from the form of the tube, or flume, which delived the water in such a manner as to guide it in a curve to the buckets. The latter, in the first instances we can trace, were simply radial in plan, but having a downward curve. They were afterward curved in plan, as shown, but had a downward discharge. The gate was a simple cut-off gate, placed directly across the flume, which throttled the water in such a manner as to give very poor effect, except with the full volume of water. This manner of delivering the water tangentially to the wheel, so as to strike the buckets at right angles, was adopted by Mr. Boyden in his first turbines. The feeder pipe led into the top of the vertical tube, which delivered the water to the wheel (on the outside of it) in this tangential direction. This was afterward abandoned, as the reversed curves of the guides were found sufficient to direct the water, which was allowed to descend in the tube as quietly and smoothly as possible.

The old theory of effect by impulse and velocity has long been abandoned, as has also that of reaction, it having been found by thousands of experiments that the best effect from a turbine is obtained when the velocity of the wheel at the point of delivery of the water is approximately that due to the water under the influence of the "contracted vein," or about 62 per cent. of the theoretical velocity due to the head. When the wheel has received this velocity, the water leaves it in a practically quiescent condition, or as it is called "dead," and gathers in the pit until it acquires a new velocity from the fall in the tail race. This is especially noticeable in the wheel pits of the Jefferson mill, to which I referred in a previous letter.

When the discharge was inward and downward the velocity of the outer circumference of the wheel would, of course, be greater than that of the water, and advantage of this was taken by John Tyler, the grandson of Benjamin Tyler, of West Lebanon, N. H., in 1855, in a wheel set in a "scroll." In it the curve of

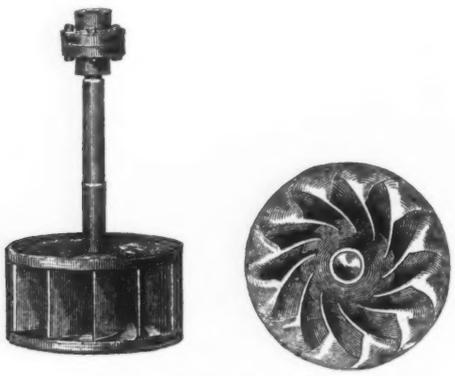


Fig. 11.—*The Tyler Turbine.*

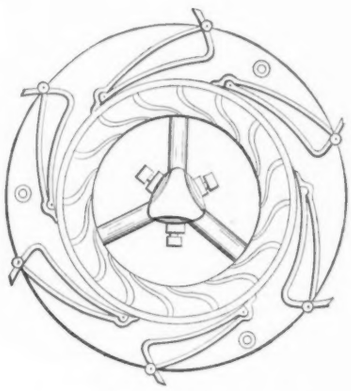


Fig. 12.—*The American Turbine.*

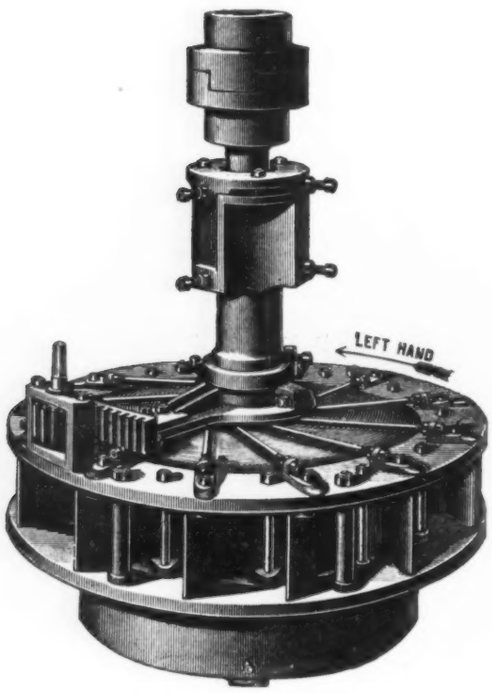
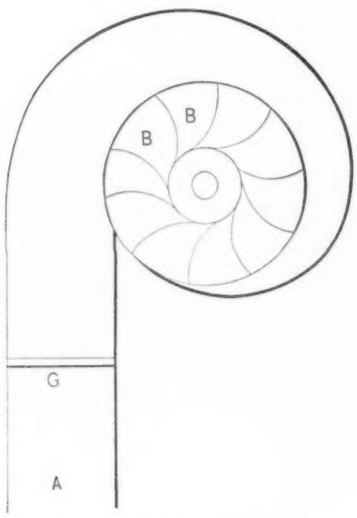


Fig. 13.—*The James Leffel Turbine.*



A, Feeder; G, Gate; B, Buckets.

Fig. 10.—*Scroll Wheel.*

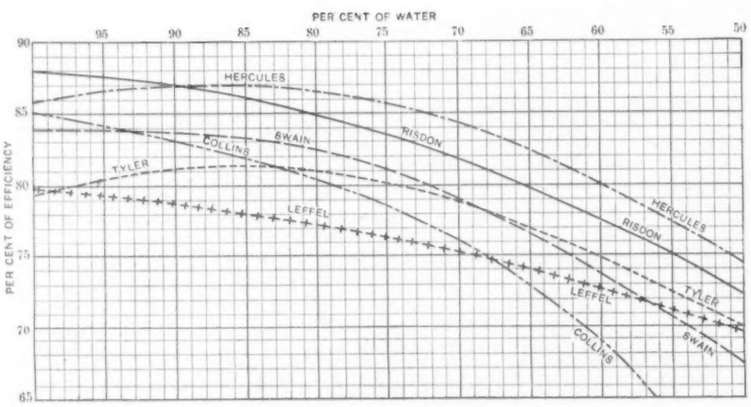


Fig. 14.—*Tests of Turbines.*

AMERICAN TURBINE WATER WHEELS.

the brackets was reversed, so as to cut the entering water with a sharp edge and receive it on the convex side of the bucket, as shown in Fig. 11.

Mr. Tyler claimed that this form of bucket, attained as the result of many experiments, gave a smooth and unbroken passage to the water. The results were certainly highly satisfactory, he having attained an efficiency of over 80 per cent. at full gate as early as 1862, by trials made at Philadelphia and Claremont, N. H. This wheel became well known all through New England and the Northern States, and over 5000 of them were in use up to 1874.

About that time Mr. Tyler patented a new wheel, designed to be set in a flume, having a very similar form of bucket, but longer and deeper, with gates which acted in such a manner as to close the shutes, while continuing their taper form and thus delivering the water in an unbroken volume instead of the cut off of the scroll. The results of this form of gate were shown at the tests at the Centennial Exhibition in 1876, which are here copied, and which show the effect of the various turbines there exhibited at various openings of gate. Many of the tests here noted have been repeatedly confirmed since, by other parties, at other places:

Percentage at Different Stages of Gate Obtained by Turbine Water Wheels Tested at Centennial Exhibition, 1876.

Maker's name, or name the wheel is known by.	Per cent. at full gate or discharge.	Per cent. at about 9-10 of full discharge.	Per cent. at about 7-8 of full discharge.	Per cent. at about 3-4 of full discharge.	Per cent. at about 5-8 of full discharge.	Per cent. at about 1-2 of full discharge.	Per cent. at about 4-10 of full discharge.
Risdon wheel of Mount Holly, N. J.	87.66		86.33	82.52		75.35	
National wheel	83.79			70 79			
Geylein wheel (single)	83.52						
Thomas Taft	82.13			70.90	66.35		55.00
Goldie & McCullough.	81 21		71.01	55.90			
Rodney Hunt Machine Company	78.70	71.66		68.60	51.03		
Tyler wheel	79.59		81.24	79.92	67.23	69.59	
Geylein's (duplex)*	77 57				74.74		
Knowlton & Dolan	77.43	74.25			62.75		
E. T. Cope & Sons	76.94		69.92				
Barber & Harris	76.16	73.33			70.87	71.74	
York Mfg. Company	75.70		67.08	67.57	62.03		
W. F. Mosser & Co.	75.15	74.89	71.90	70.52		66.04	
A. N. Wolf	74 89			74.15	65.00	61.82	
A. N. Wolf	72.50		71.66			64.30	
O. J. Bollinger	70.46	68.78	65.33		60.20	55.52	
American turbine	68.59		69.29				60.14
Chase Turbine Company	68.38	67.79		57.52			
York Mfg. Company (experimental)	67.63		51.15		61.42		
J. T. Noye & Sons	65.68	65.59		64.80			

* This wheel was a double wheel with double guides, having no gate. Only one part of the wheel and guide was uncovered to get part-gate results. Therefore the part-gate result reported is not part-gate compared with the other wheels, but a full-gate test of a wheel venting about five-eighths of the water of the combined wheel.

The loss in effect with partial water from the cut off gate of the Fourneyron wheel is plainly shown in this table by the record of the Hunt wheel, which used this form of gate, as a subsequent change has brought their net effect with five-eighths water up to about 70 per cent.

Another of the early wheels which has been widely known was the American turbine of Stout, Mills & Temple, and I mention it here in connection with this test, to show the same high relative result, due to proper gate opening, which in this wheel was 60 per cent. with four-tenths water, as against 68.50 per cent. at full gate.

The annexed cut, Fig. 12, shows section through gates and buckets, the gates being operated by a system of levers worked from a ring surrounding the shaft, like eccentrics, as shown in the cut, Fig. 13, of the Leffel wheel. Of the date of this wheel the writer is uncertain, but the original wheel was an inward discharge, or center vent. This was changed about 1878 or 1879 to a wheel copying the Swain, and the results of one of these wheels tested by the writer at Holyoke in 1879 showed from 80 per cent. full to 67 per cent. with half water.

Probably the most widely known and popular of all the cast-iron wheels made in the United States is the Leffel double turbine. The wheel itself consisted of a center-vent wheel superposed on a downward flow, all in one casting, the two sets of buckets being separated by a diaphragm which also strengthened the wheel. The gates were pivoted on centers like a Venetian blind, and opened and closed by the levers. This has proved one of the most effective forms of gate ever devised for giving a smooth flow of water to the wheel and a high result when the gate was partially closed. It has been widely copied, or imitated, so far as the patent could be avoided, by numerous later builders, the Leffel dating from about 1862. How many of these wheels are in use the writer cannot say, but knows that it reaches many thousands.

A test of one of these wheels at Lowell in 1869, by H. F. Mills, C.E., showed from about 80 per cent. effect at full gate to 70 per cent. at one-third gate, or half water. This was afterward confirmed by Jas. Emerson. These wheels have been constantly improved with the times, and many of them on horizontal shafts are now being run under high heads of from 70 to 130 feet, and even much higher.

It would simply waste time to attempt to enumerate the different forms and varieties of turbines introduced between 1860 and 1876. Some were good, some poor and some very bad. The buckets were made with a variety of curves and some with angles "to hold the water," as the inventors expressed themselves. Some were with buckets cast single and bolted on to a central cylinder, and some had combinations of two wheels, with the buckets in opposite directions, one below the other, the solid shaft of the lower wheel passing up through the hollow shaft of the upper one, and connected by bevel gears at top to a horizontal jack shaft, with the intention of doubling the power of the water by "using it twice over."

It is to be noticed, hower, that all these wheels tend in one direction, to what may be considered as the distinctly American type of turbine, viz., the delivery of the water to the wheel in a horizontal direction toward the center and from the wheel in a vertical one. This form has two great advantages—it admits of such form of gates, easily accessible, as will deliver the water to the wheel smoothly, and of a free delivery, which will not produce cross currents in the pit.

As there are yet three of the most prominent later forms of wheels to be noticed, I will close this article with a diagram, Fig. 14, showing the relative efficiency of several of the best wheels, with different quantities of water, this being one of the most important points on a variable stream. It will be seen that such wheels are practically far more valuable than the Fourneyron type, which admitted half water with one quarter gate, and only realizes 40 per cent. of that.

The Swain test shown in this diagram was made by Jas. B. Francis, the Leffel test by Hiram F. Mills, the Hercules and Collins tests by Prof. R. H. Thurston and those of the Risdon and Tyler by the writer.

Treasury Decisions.

Steel Deck or Bulb Beams for Ships.

Before the United States General Appraisers at New York, January 9, 1893. In the matter of the protest, 16,495*b*-7,687, of O. G. Hempstead & Son, against the decision of the Collector of Customs at Philadelphia, as to the rate and amount of duties chargeable on certain bulb beams of steel, imported per "Manitoban," June 10, 1892. Opinion by Wilkinson, General Appraiser.

The goods are invoiced as "bars, 7 x ⅝ inch bulbs, 21 feet 8 inches long." They were assessed for duty at 0.9 cent a pound, under paragraph 137, N. T., as deck beams, bulb bars, or structural shapes, and are claimed to be dutiable at 0.5 cent a pound, under paragraph 146.

The goods are known in trade as bulb bars, and are used principally for deck beams in shipbuilding.

We find that the said bars are structural shapes of steel. The decision of the collector is sustained accordingly.

Cold Rolled Corset Steel.

Before the United States General Appraisers at New York, January 12, 1893. In the matter of the protests, 32,702*a* and 32,703*a*, of R. H. Wolff & Co., against the decision of the Collector of Customs at New York as to the rate and amount of duties chargeable on certain cold rolled corset steel, imported per "Wisconsin," April 8, 1892, and "Taurie," July 13, 1892 Opinion by Wilkinson, General Appraiser.

The merchandise is cold rolled corset steel, valued at less than 3 cents a pound, less than 8 inches in width, and thinner than No. 20 wire gauge.

We overrule the claim that it is dutiable under paragraph 146, N. T., and affirm the assessment of duty under paragraph 140.

The steamship "Lucania," sister ship of the "Campania," built for the Cunard Company, was launched at the yard of the Fairfield Company, near Glasgow, 2d inst. The "Lucania" will leave Liverpool for New York April 8, and her consort will follow some time in May. The dimensions are: Length over all, 625 feet; breadth, 65 feet; depth, 41 feet, and nearly 13,000 tons in measurement. The "Lucania" is 20 feet longer and 7 feet broader than the "Teutonic" or the "Majestic," and it is expected to lower the ocean record. It may not be generally realized that the new Cunarder "Campania" will be only 10 feet shorter, though 17 feet less beam, than was the "Great Eastern," but the "Campania" will be of 30,000 horse-power, as against the old leviathan's 7650.

WORLD'S FAIR NOTES.

Exhibits by Great Britain.

Sir Henry Trueman Wood, Secretary of the British Commission, has made public particulars of the character and extent of the British exhibit at the fair. The British section, he says, will cover 600,000 square feet, which is the largest space ever occupied by Great Britain at any international exhibition. Two-fifths of the space will be given to the colonies of Great Britain. There will be about 600 exhibitors in the industrial departments of the fair, and great care has been taken to select exhibits which shall give the most adequate illustrations of Great Britain's commerce and art. The allotment of space is divided among the following departments: Agriculture, Electricity, Fisheries, Forestry, Live Stock, Machinery, Manufactures and Liberal Arts, Mines and Mining, Transportation, Fine Arts, and in the Woman's Building.

In the Manufactures Building there will be shown fine specimens of Worcester porcelain, Doulton ware, jewelry, furniture, silks, wall papers, billiard tables, linen and old gold work from Ireland, chemical products, an extensive exhibit of photographs, including work by amateurs, newspapers, scientific instruments, and various educational appliances used by the School Board of London and the Science and Art Department.

In the Transportation Building the Britons will show engines and carriages from various English railways, bicycles, a model of the Forth bridge, carriages and vehicles, and an elaborate display of models of ships sent by the great shipbuilding firms of the United Kingdom. The latter exhibit attracted great attention at the naval exhibit in England, and, it is predicted, will be one of the most popular features of the British contribution to the great show, to view every exhibit in which, Sir Henry Trueman Wood says, will necessitate a walk of 50 miles.

In the Machinery Department a great number of miscellaneous mechanical devices will be in view. Printing and typesetting will be illustrated, there will be looms, spinning frames, steam hammers, three steam engines at work, and specimens of cotton cleaning machinery.

English electricians, the secretary states, have not contributed so liberally to the electrical section as the Commissioners have desired. The chief British exhibit will be a splendid collection of telegraph apparatus in use in the Post Office Department.

Burdett-Coutts, M.P., will show a model of his stud farm in the Agricultural Building. There will also be a model dairy.

Of England's colonies Canada will hold the premier position, says Sir Henry. Its exhibits will be large in the Agricultural, Mining and Manufactures Building. New South Wales will show timber and merchandise and an enormous trophy of silver taken from the Broken Hill mine. Ceylon will show teas in native stall, with native attendants. India will send specimens of Indian art, silks and other articles. The Indian exhibit, though not decided upon till late, will nevertheless be creditable and interesting. South Africa will send exhibits, noticeable among which will be an illustration of the process of diamond mining, and the samples of clay sent over to show the operation of washing will be selected for their probability of containing diamonds.

Great Britain will have a handsome representation in the Fine Arts section. There will be between 800 and 900 works by some 300 painters who have been chosen out of 1000 applicants. There will be few pictures from the public galleries, but nearly all of the royal academicians will have canvases at the fair. The Queen has lent several pictures which will be sent over. In explanation of the limited number of pictures from public galleries, Sir Henry Wood states that the collections in the National Gallery and at South Kensington are precluded from being lent, a rule which is in contrast to the regulation on this point governing the public collections in France and Germany. These may be drawn upon with the assent of the government, which is not difficult to obtain.

Many of the British exhibits are now on the way to Chicago, and the organization of the section will be begun this month by Sir Henry Trueman Wood in person, assisted by a regular staff. He is confident that the entire exhibit will be complete and ready by May 1.

The Hon. Arthur Renwick, who will represent the New South Wales Commission to the exposition, is now in Chicago and will remain there at least until the exhibit is installed. He makes a stronger claim for New South Wales than Sir Henry Wood, evidently believing that the antipodes will surpass any of Great Britain's nearer colonies. He says:

"Our principal displays will be those of minerals and wool. In the former we expect to beat everything except, perhaps, the display of the United States, and in the latter, the world. Our mining exhibit will include samples of almost every known mineral—gold, silver, coal, iron, copper, tin, lead, zinc, platinum, bismuth, plumbago, manganese, cobalt, mercury in the form of sulphides or cinnabar, magnetite, nickel, &c., in addition to many kinds of precious stones.

"Australia is the second gold producing country and the yield of this metal in the last 40 years has exceeded in value $1,500,000,000. 'The Welcome Stranger,' one of the biggest nuggets ever taken out of a mine, will probably be on exhibition. 'The Welcome Stranger' is a nugget of gold weighing 3040 ounces, found in 1869. It will be the central feature of the exhibit of which it will be a part, and while on exhibition will be guarded by a force of detectives specially detailed for the purpose. We claim and visitors generally concede, that Sydney, our capital, is the best paved city in the world. We had intended originally to lay down a section of a street in Chicago with our wood-blocking but the great cost of carriage militated against this, and we are going to content ourselves by laying down a small section in or outside one of our courts."

Krupp's Big Guns on the Way.

Fried Krupp, the great gunmaker of Germany, has shipped the first consignment of the implements of war to Jackson Park. The bills of lading were received at the Chicago Custom House on the 30th ult. The consignment left Baltimore on January 26, and included six guns, valued at $132,000. While Herr Krupp intends to send later the monster gun of the age, the ones which are now *en route* between Baltimore and Chicago are by no means small. The largest one is approximately 16 inches in diameter and is meant for coast service. There are an 8-inch central pivoting gun, a 16-inch 40-pound quick firing gun; a 5-inch 40-pound quick-firing gun, and two additional smaller ones. Within a few days the monster gun, the biggest one ever constructed, will be *en route* to Chicago. This one will have a bore of 25 inches in diameter and will weigh about 130 tons. Herr Krupp has manufactured it especially for the World's Fair at the request of Emperor William. A special pavilion is under construction for its reception. In addition to the cannon which will be received there will be a large quantity of packages containing gun carriages, steel armor plates, steel tires, disk wheels, driving wheels, iron cables, plates, tools, &c.

G. Gillhausen and Richard Abe arrived from Germany during the week to take charge of the work of installing the Krupp exhibits.

Roofs Damaged by Snow.

On the 28th ult. considerable damage was done to some of the roofs of the large buildings by accumulations of snow, which formed avalanches under the effect of a heavy rain. The frame work of the roofs was not injured in the least, having been built to withstand almost any strain short of an earthquake. Skylights and glass work suffered, as they could not be braced against such an accident as a snow slide. An erroneous impression has prevailed that the roofs themselves did not bear the weight of the snow. The Manufactures Building is constructed in what might be considered three sections. First there is a main portion 376 feet wide with a towering roof several hundred feet high. On either side of this are annexes or naves, much lower, 175 feet wide. It was on the great hight of the main roof that the snow accumulated. There are at least 16 acres of space there, and the great fall of snow in the last few weeks steadily accumulated. When the mild weather came on, accompanied by rain, the 16 acres of snow became saturated with moisture. As the rain continued the burden became heavier, and finally the great mass of wet snow slipped from its moorings and started on the down grade. For 200 feet it had a clear track and acquired a great momentum. Then it had a clear jump of 50 feet to the glass roof below. Thither it fell and crashed everything before it. The curve in the main roof gave even a greater fall, and apparently the snow left its base of support on reaching this curve and made a sheer jump of nearly 100 feet. Of course nothing in the way of the ordinary roof structure could withstand the shock. But to repair damages will only cost $5000, which proves that it was not a very serious matter. The injury to other roofs was of the same character but even less serious.

The Boiler Controversy.

The Babcock & Wilcox Company have won the first stage in their suit against the Exposition Company, in which they claim the right to place their boilers in the space lately granted by the exposition management to the Stirling Boiler Company. This case was referred for a preliminary hearing to a master in chancery, who reported to the court on the 1st inst. in favor of the Babcock & Wilcox Company. The case will now be fought before the court, but even if the decision is then in favor of the Babcock & Wilcox Company the matter will not then be closed, as the Stirling Company will insist that they have an actual contract for the space in dispute, which should take precedence over an allotment by the chief of a department. The contest between these boiler manufacturers is exciting no little interest in the trade, as it evidently means much more than the mere desire to exhibit specimens of a few boilers at the World's Fair.

Miscellaneous.

Various States of the Union are beginning to designate the days which they wish to have set apart for their special celebration. Altogether ten States and Territories have selected days. Utah will have July 24; Washington, May 17; Wisconsin, May 23; North Carolina, August 31; California, September 9; Kansas, September 15 and 16; New York, September 4; Maine, June 2; Colorado, Aug. 17. The commercial travelers have been given July 26 and the Independent Order of Foresters May 12.

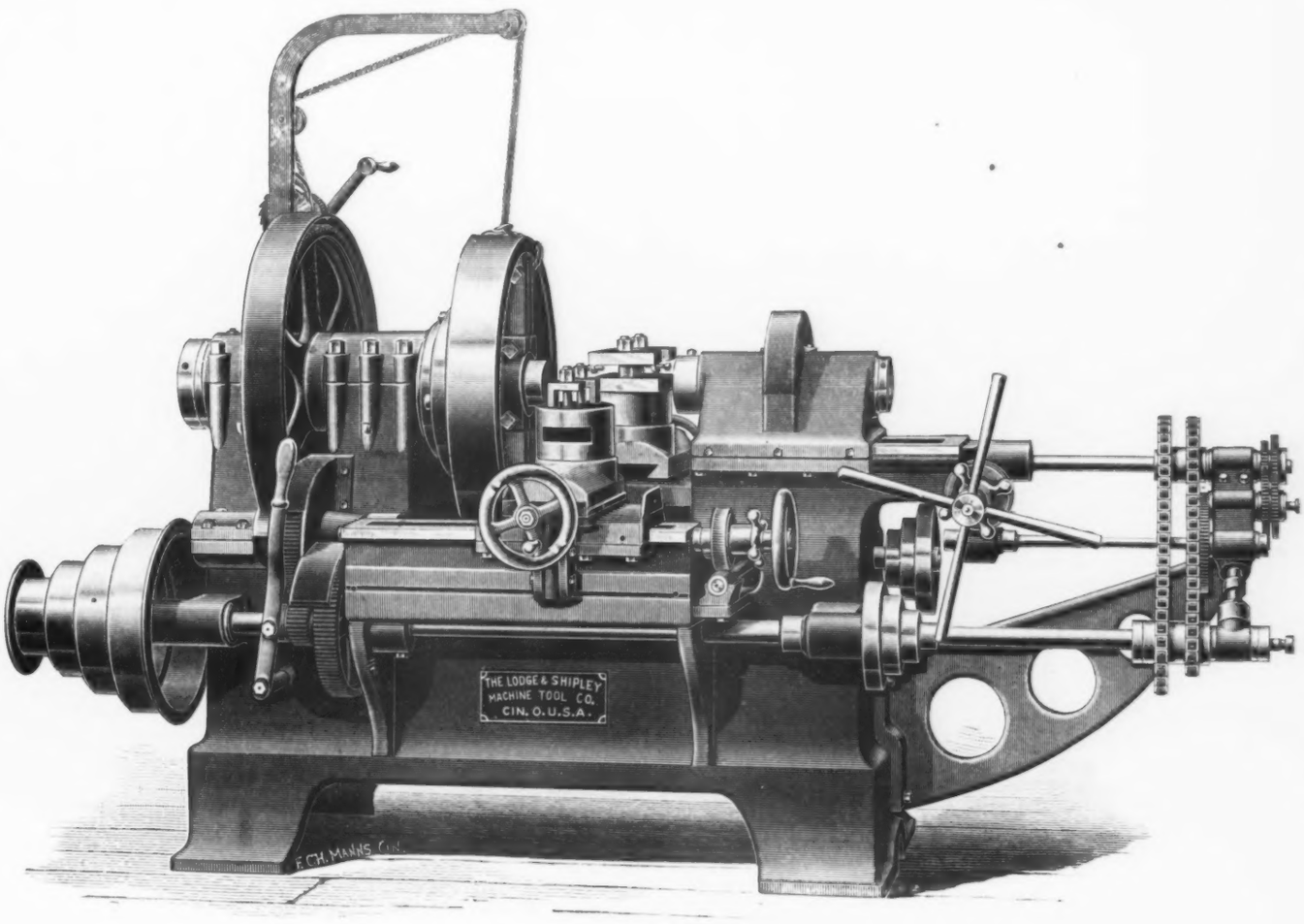
An engine built by James Watt, Lancashire, England, in 1815, is to be exhibited in the Department of Transportation.

The owners, John Rourke & Son of Savannah, Ga., will make the exhibit. The firm have been using this old engine since the time of its construction.

The Western Union Telegraph Company has shipped a model of the famous steamship "Great Eastern," which laid the Atlantic cable. It is valued at $5,000.

The Lodge & Shipley 30-Inch Motor-Gear Lathe.

For the rapid production of gears such as are used on street railway motors and on all heavy machinery requiring gears, the Lodge & Shipley Tool Company of Cincinnati have brought out the lathe which we illustrate.



THE LODGE & SHIPLEY 30-INCH MOTOR-GEAR LATHE.

At the 1892 convention of The Street Railway Association of the United States, at Cleveland, Ohio, one of these machines bored, squared and turned a motor gear blank 23 inches in diameter, 4½ inch face, 3⅝ inch bore, in 23 minutes, including chucking and unchucking, and made an accurate and finished job ready for the gear cutter. The 30-inch lathe here illustrated will, at the same operation, bore, square and turn blank gears to 30 inches diameter, and will admit pieces of that diameter by a 24-inch face.

The head spindle bearings, rails for carrying the turning saddles and tail-stock slide are one casting with the bed. The power is taken from a 3½-inch double belt by a large four step cone on the main driving shaft. The head spindle is driven from the main driving shaft by a train of six gears, which include the back gear. The ratio between the driving shaft and spindle is 2 to 1 with back gear out, and 30 to 1 with back gear in, thus giving a range of eight speeds from 2 to 180 revolutions per minute.

The gear on the head spindle is 30 inches in diameter. The spindle is 6 inches in diameter and has a 3¾ inch hole through it. The front end of this hole is bored tapering to receive a mandrel, center or bush. The nose of the spindle is 9¾ inches in diameter and threaded to receive the chuck. On the back of the head stock is a swinging crane for handling work in or out of the lathe.

The saddles are driven by means of screws, the rear one being provided with power cross feed. The front tool block is arranged to carry two tools, either of which may be revolved into position. The rear saddle is fitted with a square tool block, on which two tools may be clamped for facing the sides of the rim of the gear at one operation. The tail-stock slide has large bearing surfaces, and is bored to receive its spindle, which is 3⅛ in diameter, with a 1⅛ hole bored straight through it, a combined set screw and key holding the bar. The travel of the tail stock is 16 inches. The straight hole through the spindle allows the use of a boring bar of any length. This spindle is driven by an 11½-inch gear from a steel pinion on the end of a shaft, which is journaled in a sleeve, the end of the sleeve being attached to the lower side of the tail stock.

The boss on the rear end of the bed is bored to receive this sleeve. The sleeve has a rack cut on its lower side, which meshes with a pinion cut on the pilot shaft. On this pilot shaft is a worm wheel and clutch for engaging the power feed. The worm shaft is driven from the tail stock shaft by means of gears. Two feeds being provided, the change from one to the other being made by sliding a key. The tail-stock shaft is feathered in a sleeve, which is journaled in a bracket by the rear end of the lathe. Keyed to this sleeve are two sprocket wheels driven by chains from sprocket wheels on the main driving shaft. These sprocket wheels run loose on the main shaft, but either may be keyed to it by means of a similar device employed with the feed gears, thus giving two speeds; the change from one to the other can be readily made or the boring mechanism can be stopped without affecting the head end of the lathe. The drives and feeds of the boring bar are all positive. The boring bar takes a bearing in the live spindle, and is provided with a collet having a self-oiling device. This boring bar secures an absolutely accurate hole. The drives and feeds of the boring bar are all positive. The chuck is fitted with clamps and adjusting screws.

A device is employed for quickly centering the casting to be turned. It consists of a forked rest in the center of the bed, on which rest the work is supported at the proper hight to be clamped to the chuck. This rest is adjusted by means of a screw, and is lowered to clear the work after it is clamped.

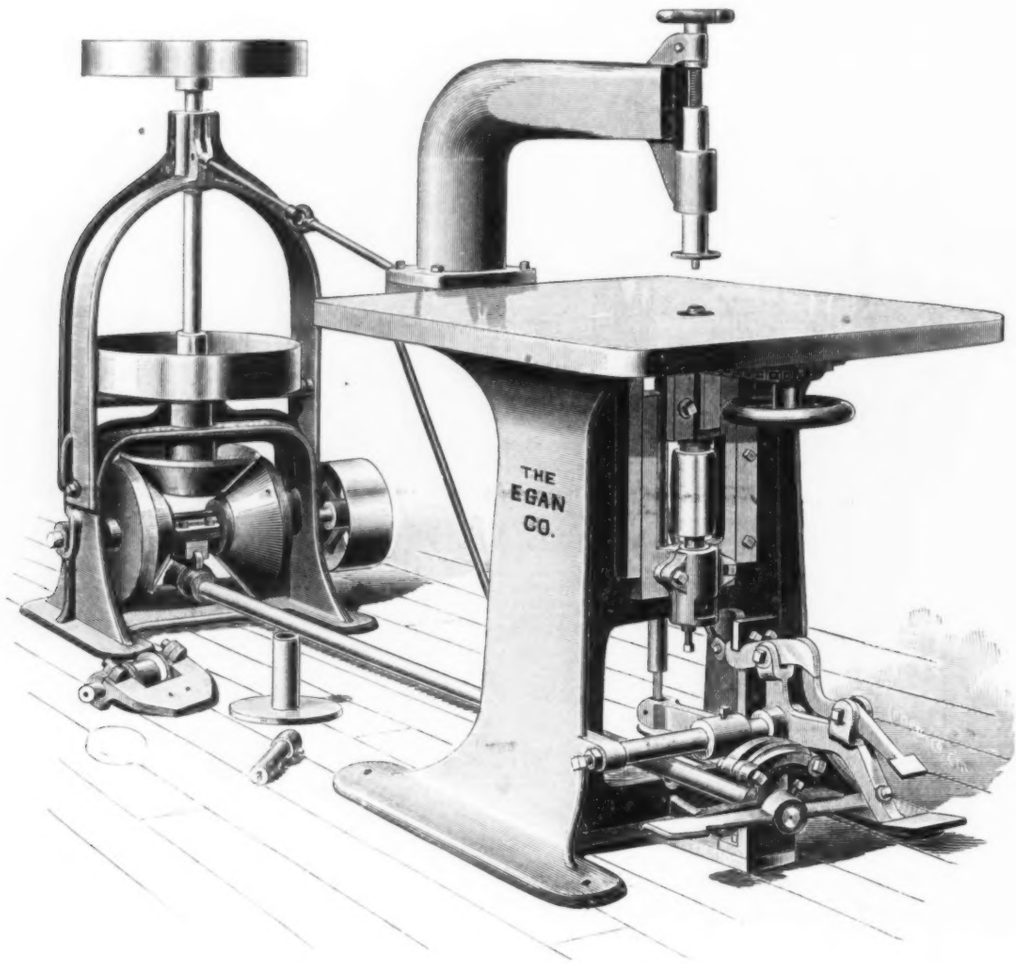
The contract for the construction of the new terminal station at the end of the Brooklyn bridge has been awarded to the Phœnix Bridge Company of Phœnixville, Pa., for $225,157.

Panel Carving Machine.

The Egan Company of Cincinnati, Ohio, recently placed on the market the panel carving machine here illustrated, which is adapted for raising panels, edge molding routing, carving, dovetailing, &c. The column is in one casting, with ample floor space to insure steady running. The mandrel is of best quality steel and runs in self-oiling boxes, which are connected, and raise and lower in planed ways, operated by foot power. The mandrel is driven by a friction reverse which is clearly shown in the cut, and which is operated from the front or working end of the machine.

For paneling, the extension arm bracket is furnished with a stud and thimble, placed directly over the center of the cutter, and which acts as a guide for the form to rest against; the form is tacked to the panel and the cutting done from below, so that all chips fall away from the cutter.

When the machine is required for molding brackets, a mandrel, cutter and bearings complete are fastened to the extension arm, and driven by a straight belt. When the machine is required for edge molding, both brackets are left off the extension arm and the machine operated as a standard single spindle friezer. For dovetailing, the dovetailing attachment is fitted to the table and the cutter driven by a friction reverse in the usual way.



THE EGAN PANEL CARVING MACHINE.

The Pittsburgh Building Inspector's annual report for the fiscal year, which closed on January 31, is now about ready, and shows that the building operations for 1892 in Pittsburgh surpassed all previous years. The actual number of buildings erected during the year foots up about 3470, an increase of over 200 over all former years. In 1889, which was the banner year until the present, the number of buildings erected was 3254, and this was then considered extraordinarily high, as it exceeded by far all previous records. The value of the improvements is greatly increased, and will foot up in round numbers nearly $9,000,000.

Fuel Oil in Chicago.—The Chicago Gaslight & Coke Company have decided upon a change of fuel, and will arrange for the use of coal instead of oil in their various substations. The change is made on the ground of economy. An interesting feature in this connection is the fact that this company made a change from coal to oil some years ago and gave the same reason for the move. This seeming paradox is explained by the engineer of the company. From a standpoint of economy, the change originally made from coal to oil was a success, although the modifications which were necessary in the plant were expensive. Since that time the price of fuel oil has been slightly advanced, while coal is now delivered in Chicago at $1.10 and upward a ton. The difference in conditions has offset the amount saved yearly by the use of oil, and the company by their new move expect to save something like $25,000 a year. The gas company propose to start fairly on the smoke question, and have placed an order with the Hawley Company for the equipment of 36 boilers with down-draft furnaces. The contract involves the expenditure of $32,000. These equipments will be placed at the different substations throughout the city. At the station of the Chicago Gaslight & Coke Company, at Deering and Cologne streets, they claim to have the largest gasholder in the world. It has a capacity of 5,000,000 cubic feet. The company say they are forced to make additions to every plant in the city on account of the increased demand for gas.

What the Anti-Option bill would do is tersely stated by a commercial writer, who says: "If rendered effective in its present shape it would destroy the public exchanges throughout the country. There could not be enough business transacted in any produce or cotton exchange to support it if it was made subject to the proposed exactions. 'Every dealer in options or futures shall pay annually the sum of $1000 as a license fee for conducting such business, and shall also pay the further sum of 5 cents per pound for each and every pound of raw or unmanufactured cotton, hops, pork, lard or bacon, and 20 cents a bushel for each and every bushel' of wheat, corn, oats, rye or barley, 'the right or privilege of delivering which to another' at a future time may be acquired by contract or sale. There are many other prohibitions with corresponding penalties."

The annual report of the Philadelphia Exchange speaks of gains in the regular steamship service of that port, but refers to the disadvantage experienced in the absence of competing steam lines and the higher rates that generally prevail in consequence compared with other ports.

The Laird & Sweeney Power Hammer.

The objects sought by the designers of this hammer were as follows:

To produce a power hammer in which all the movable parts work from a common center, so as to enable the machine to be easily adjusted, which is nicely balanced, so that it may be run with little power, and consequently be worked by hand or foot power, which is provided with a counterbalanced hammer or die and has means for adjustment, so that the blow may be harder in either direction as desired, which is provided with a substantially frictionless means for raising and lowering the hammer, which is adapted to give an elastic blow in imitation of hand work, and which may be quickly adjusted to operate conveniently on different thicknesses of material.

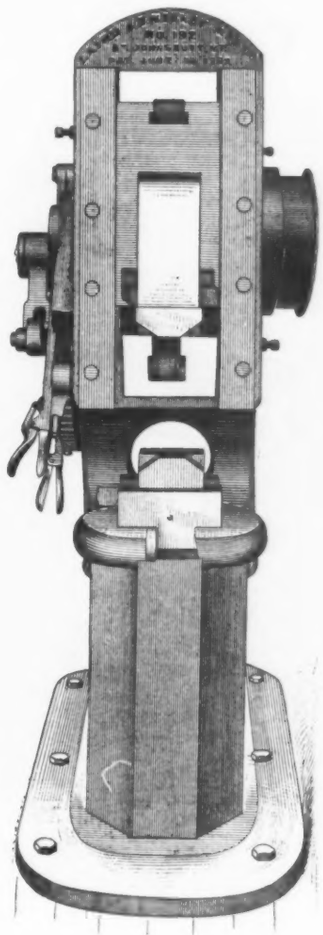


Fig. 1.—Front Elevation.

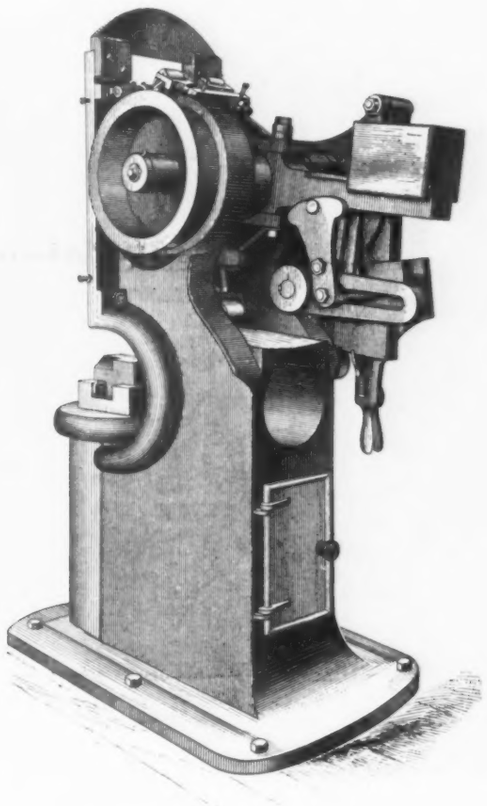


Fig. 2.—Rear View.

THE LAIRD & SWEENEY POWER HAMMER

The machine is provided with a substantial frame, in the upper part of which is a transverse shaft, driven by a pulley secured to one end, and having loosely mounted on the opposite end a large disk, which has an elongated hub extending through the frame. Ordinarily there is friction enough on the hub to hold the disk in the position in which it is placed, but to guard against any possible deviation the disk is provided with a depending handle, as shown in Figs. 3 and 4, which carries a common form of spring latch, adapted to engage a toothed rack, arranged opposite the latch and secured to the frame.

On the end of the shaft which projects through the disk is a crank plate, having a crank pin on which is pivoted a connecting-rod having its opposite end pivoted to a sliding plate moving in a guide formed on the outer surface of the disk. The sliding plate is connected with one arm of a double crank, which is journaled in a lever pivoted on the outer side of the disk near its upper part and extending across and below the disk to a point where it may be reached conveniently, as shown at the left in Figs. 3 and 4. This lever is provided with a spring latch arranged to engage a rack and hold it in any desired position. The arm of the double crank is slotted near its free end, so as to permit the necessary play of the pin connecting it with the sliding plate; the disk is also slotted to permit the movement of the crank and lever. The inner arm of the double crank extends rearward and connects with a depending arm on the helve, which is pivoted centrally on the hub of the disk and has at its front end two vertically aligning guide pieces, between which is a strong, flat spring, one end of which is rigidly secured in the front end of the helve and the opposite end of which is attached to a segmental plate, the arms of which are pivoted to the hub and shaft. In front of this plate is a vertically sliding plate, moving in guides formed in the uprights of the main frame and which carries the hammer or die. The head and segmental plate are connected by means of straps, the middle one of which is secured at its upper end to the top edge of the head and at its lower end to the lower edge of the plate, and the other two straps have their upper ends secured to the upper edge of the plate and their lower ends secured to the bottom edge of the head. This attachment permits of a frictionless movement of the segment and head in relation to each other, as the straps will alternately be wound and unwound. Beneath the hammer is the lower die or anvil.

On the rear end of the helve is a counterbalancing weight, which is adapted to counterbalance the hammer, and which may be adjusted longitudinally upon the helve. It will thus be seen that the hammer may be exactly balanced or the weight may be adjusted so that the hammer will move down or up with greater or less force, as desired.

The operation of the machine is as follows: The machine is first adjusted so that the hammer will be normally at a desired distance above the anvil by means of the handle. This is done by merely moving the handle backward or forward, as the movement of the handle turns the disk and causes it to move the crank, and thus raise or lower the rear end of the helve, as the case may be, and so bring the hammer into a desired position. The machine is then started and the rotary movement of the shaft and crank plate causes the connecting rod and slide plate to move up and down, and the movement of the slide plate oscillates the crank, and consequently tilts the helve, which movement of the helve moves the segmental plate, by means of the spring, and thus raises and lowers the hammer head, and the spring connection between the helve and segment causes an elastic blow to be struck. To change the stroke of the hammer, the lever is moved backward or forward, so as to move the crank into a desired position in the slot, and it will be

readily understood that the stroke will vary, according as the crank is pushed into the slot or near the open end of the same, as the inner end of the slot is much nearer the center of the disk than the outer end. The lever may be moved easily and with safety while the machine is in operation, and, as a result, the hammer may be made to deliver powerful strokes during the early stages of an operation, and the strokes may be gradually diminished in power until they may be as light as desired.

The machine illustrated, which is made by the Laird & Sweeney Mfg. Company of St. Johnsbury, Vt., has a range of stroke from 2 to 8 inches and an opening between the dies of 16 inches. The main frame is cast in one piece and there are no bolts except those holding the guides for the head. The anvil is cast separate from the frame and is very heavy in proportion to the head, weighing 1,500 pounds. The forged steel shaft has a bearing of 24 inches through the hub. These hammers are now built in sizes from 25 to 500 pounds weight of head.

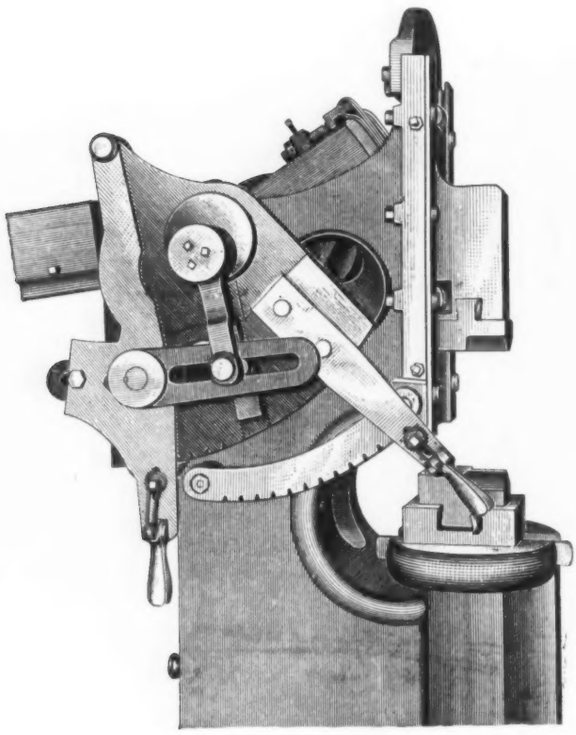


Fig. 3.

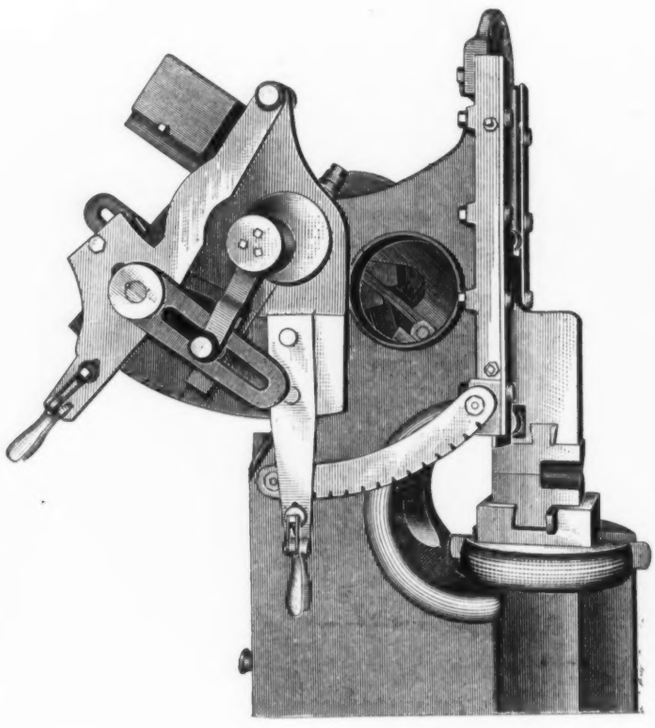


Fig. 4.

Disk in Different Positions.

THE LAIRD & SWEENEY POWER HAMMER

A Remarkable Railroad Circular.

The Central Traffic Association, which is an organization composed of railroads operating in the Central Western States, has issued from its headquarters in Chicago a circular entitled "Special Commodity Tariff No. 74." This circular is of much importance to the iron trade, as it completely changes the classification of a number of commodities, and goes into effect on the 13th inst. The remarkable feature of the circular, however, is not so much the change in classification as the fact that it bears in italics this injunction to those into whose hands it falls: "This tariff is intended only for the use of members of the committee, and is not for distribution among the public." Notwithstanding this injunction we take pleasure in laying before our readers the gist of this new commodity tariff. It establishes in one class pig iron, mill cinder and scale, per gross ton. In a separate class, carrying a higher rate of freight, it groups "billets (iron or steel), blooms (iron or steel), borings (iron or steel), chain iron (in coils), crop ends (iron or steel), muck or puddle bars, old car wheels and axles, old rails, scrap iron, scrap steel, scrap tin, slabs, unfinished iron or steel, wire rods (in coils), per gross ton; ingot molds, cast iron pipe, per net ton."

A note appended to this list of articles taking billet rates of freight is as follows:

The rates on billets, blooms and slabs will apply only on such unfinished material as is intended to be rerolled, and can be transported in open cars without damage from exposure to weather, and which are covered by the following description:

Billets and blooms, the combined measurement of the width of the four sides of each being not less than 15 inches. Also billets in less sizes than the above named, provided they are square (not round, flat or oval), the weight of each being not less than 150 pounds. Slabs, rough and unfinished, the combined measurement of the width of the four sides of each being not less than 15 inches, and each slab not less than 1½ inches in thickness.

The above explanation must be plainly printed on all tariffs named on billets, &c.

Exception is taken to this change in classification by those interested in the sale or consumption of scrap iron and steel. Justification exists for a higher than a pig-iron rate on billets, blooms, chain iron, muck bars, old rails, old car axles and wire rods, because they are much further advanced than pig iron toward the finished product, but why borings, crop ends, old car wheels, scrap iron and scrap steel should be torn from their time-honored and natural classification with pig iron is hard to understand. They occupy about the same position as pig iron in their relation to finished products, and are less valuable than pig iron; in some instances very much less. The advanced classification will not only impede the transportation of this cheap grade of material, but will also considerably tax manufacturers of iron and steel who obtain their supplies of scrap from distant points. A remonstrance prepared by August Pollak of Chicago, and signed by him and the Northwestern Iron & Metal Company, has been forwarded to the Interstate Commerce Commission praying for their interference. The remonstrance so clearly sets forth the defects of this new commodity tariff that we here reproduce it, as follows:

CHICAGO, January 28, 1893.

To The Honorable "The Interstate Commerce Commission," Washington, D. C.

GENTLEMEN: We beg to inclose you a copy of Special Commodity Tariff No. 74, which the Central Traffic Association proposes to put into effect February 13, 1893, also copy of Lake Shore & Michigan Southern Railway Company's Tariff No. 13, corrected, showing classification and rates now in effect to the points and on the commodities affected by the Central Traffic Association's Tariff No. 74, aforesaid.

We petition your Honorable Commission to use your legal authority in preventing the Central Traffic Association in putting into effect the proposed new classification of the commodities affected by said tariff No. 74, until such time as will give your Honorable Commission sufficient opportunity to hear the various parties interested, and examine carefully the arguments put forward by such parties.

Our reasons for petitioning your Honorable Commission in the manner suggested are that the proposed new classification is contrary to the spirit of the "Act to Regulate Commerce, etc.," under which your Honorable Commission was created, on account of its not being fair, just and reasonable.

The proposed tariff No. 74 displays a most remarkable ignorance on the part of its framers of the nature of the articles and commodities it proposes to affect or of their comparative value, or of the manner in which they are handled and shipped, or of the relative position they occupy to each other at the furnaces or mills of the consumer. In spite of this glaring ignorance the railroad men composing the Chicago Committee of the Central Traffic Association, or their clerks, have undertaken to

seriously disturb an industry like the scrap-iron business, in which millions of dollars of capital are invested and which employs thousands of laborers in gathering, distributing and assorting scrap iron, not to mention the additional millions invested by consumers in building special furnaces for the consumption of scrap, and the additional thousands of laborers employed at such furnaces. The railroad men aforesaid have deemed it wise to affect all these interests, about the nature of which they have displayed such remarkable ignorance, without giving the least notice to the parties who could have enlightened them on the nature of their undertaking. They have simply taken snap judgment without caring who will be hurt, and they have kept their intention of making such sweeping changes secret from all parties interested. Even at present writing the proposed changes are unknown to the majority of parties interested, and your petitioners were only apprised of them through the personal friendship of one of the railroad men, and you will find on the last page of the tariff No. 74 that it is "not for distribution among the public."

For many years scrap iron and steel borings, turnings, &c., came under the same classification with pig iron, &c., as is apparent by referring to group No. 1 on Lake Shore Tariff No. 13 inclosed.

Now tariff No 74 proposes to put scrap, &c., into a new and higher classification, the rates proposed being, for instance, on Mahoning Valley points—which is the largest scrap consuming market for shippers from this point—fully 17½ per cent. higher than pig-iron rates. This is neither just nor equitable, nor does their exist the slightest reason for such a proceeding.

If we understand correctly the basis upon which classifications on various commodities are made, the following facts are usually taken into consideration: 1. The value of the article transported, defining the responsibility of the carrier in case the shipment gets lost in transit. 2. The care that must be exercised to prevent shipments from getting damaged while in transit. 3. The circumstances which establish just and reasonable rates which the articles can afford to pay without prejudicing a reasonable profit left to the carrier.

Now, in the the first place, the average value of scrap iron carried from Chicago and other Western points to the points affected by proposed tariff No. 74 is much lower than the average value of pig iron. In fact, the articles principally shipped to those points consist of cheaper grades of scrap iron and steel, such as borings, turnings, &c., which are worth only about one-half of the average value of pig iron in this market, consequently there is no reason under this heading why rates should be 17½ per cent. higher.

2. Scrap iron will not spoil while in transit more easily than pig iron, consequently no additional care must be exercised in handling shipments, and certainly there is no occasion for higher rates for this reason.

3. The traffic will certainly not bear such unjust discrimination in favor of pig iron. The average net profit earned by dealers in scrap iron is less than the amount of the proposed advance, consequently no inducement can be given by scrap iron sellers to consumers to use scrap iron together with pig iron by reducing prices to them to equalize the difference in freight rates, consequently shipments from the West will have to stop, much to the detriment of the capital invested and the labor employed, as above referred to.

The Chicago Committee of the Central Traffic Association could not have displayed their ignorance on this subject any more than by classing scrap iron, borings, &c., together with billets, blooms, crop ends, wire rods, ingot molds, &c.

Any body possessing only the smallest possible knowledge of the consumption of raw material employed in the manufacture of iron and steel must know that scrap iron, &c., is treated at the furnaces exactly like pig iron—*i.e.*, by first heating or puddling, and rolling out, after which process it only becomes a billet or bloom or puddled bar; now why the Chicago committee have decreed in their superior wisdom that scrap iron should take the same rates as billets, &c., into which it must first be manufactured at considerable labor and cost, before it can be cooled down, and then, just like other billets, blooms, &c., be again reheated and rerolled into the manufactured product of bar iron, &c., is incomprehensible.

Any one not possessing the superior intellect of a Chicago railroad freight agent would naturally suppose that articles being worked in exactly the same way by the consumer, like pig iron and scrap iron, would naturally take the same rates, and especially the cheaper class of material should not be supposed to take a higher freight rate than a more expensive one.

COPPER EXPANSION JOINT.

It can also be illustrated that old car wheels, which take a higher rate under the new classification than pig iron, are required to be broken at considerable expense into smaller pieces before they become ready for use to the consumer, in exactly the same position that pig iron is before any expense is put upon it. This alone will show the injustice of the proposed new classification.

In order to be fair and just it must be stated here that old iron rails occupy the exact position in reworking in one heat that billets and blooms do; they are also more expensive material than pig iron, and consequently no objection can be made against placing them in a higher classification, but your petitioners earnestly hope that as far as the other classes of scrap material are concerned the reasons given are sufficient to induce you to grant the prayer of your petitioners. Very respectfully,

AUGUST POLLAK,
NORTHWESTERN IRON & METAL COMPANY.

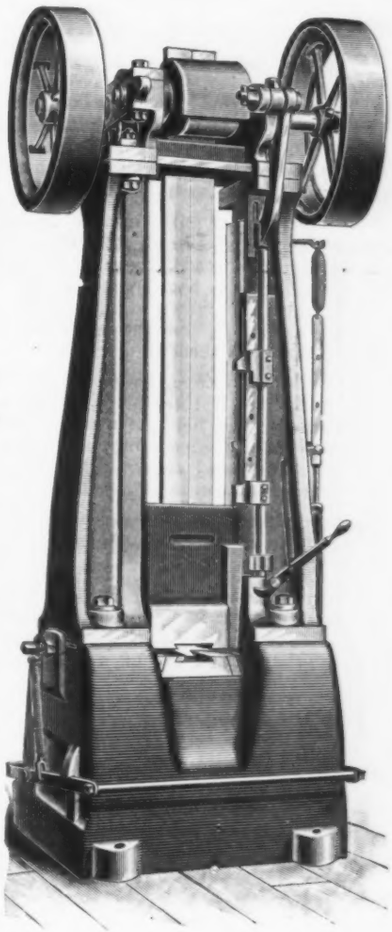
Copper Expansion Joint.

The Dame & Townsend Company of 76 John street, New York, are now making the copper expansion joint, of which an engraving is presented. The joint is made of annealed copper pipe, with a patent cast-iron reversed flange union expanded on each end. The expanding of the copper in the recess of the flange forms the packing.

A Drop Hammer with Automatic Lift.

The Waterbury Farrel Foundry & Machine Company of Waterbury, Conn., have placed on the market recently a line of power drop hammers provided with automatic lifters. The machine is simple in design and substantially built. The base and rails are of extra heavy weight and are made of charcoal iron, the long, heavy bolts used to secure these rails being adapted specially to their particular work. As the constant jar to which this class of machines is subjected crystallizes its members, especially bolts, it is so arranged that no tapping is done in the cast iron. Every bolt and screw is used in connection with a removable wrought-iron nut dropped into a pocket, so that when a bolt is ruptured it can be readily removed and replaced.

The hammer head, which is of forged steel, is raised by friction rolls acting on the board attached to the head. Both of these friction rolls are belt driven, one by crossed and one by open belt, thus doing away with objectionable gearing. One of the rolls is carried in stationary adjustable boxes, while the other is supported in an eccentrically-hung frame in such a manner that the raising and lowering of the rod shown on the front of the right hand rail will force the friction roll to or from the back roll. When the rod is allowed to drop its weight is sufficient to clasp the board firmly, and the rotation of the rolls will cause the hammer to rise until the rolls are separated by the rod being lifted, through the action of lugs on the hammer, in the well-known manner. The eccentric yoke or frame carrying the moving roller is a steel casting, bushed with removable bronze sleeves where the roll shaft runs. As these bearings are in one single casting they cannot get out of perfect alignment, and can be repaired easily when worn.



A Drop Hammer With Automatic Lift.

The roller frame is in one casting, with caps to hold the rolls in place. Either roll may be removed without disturbing the other. The several positions from which the hammer may fall are fixed, and the catch lever may be set in any desired position.

The character of the blows and extent of control which the operator has may be summed up as follows: Depressing the treadle releases the catch from the hammer and permits it to fall. If the foot is removed from the treadle as soon as the blow is struck the hammer will return to its set position and rest. If, however, the treadle is held down, repeated blows are struck from the predetermined hight.

These hammers are made in six sizes having a weight of hammer from 450 to 1500 pounds.

THE WEEK.

Consul Astwood at San Domingo reports that the reciprocity treaty with that country has not improved commercial relations, and that the people are much dissatisfied.

Canada proposes to spend $4,330,000 the coming year in improving her canal system.

Governor Murphy of Arizona claims a population of between 70,000 and 80,000 for that territory.

A ridiculous bill is before the New York Legislature to regulate the price of coal and excites much comment in Pennsylvania. The *Philadelphia Ledger* says that if the companies could make money at the prices fixed they would sell coal at those prices, with or without the law, and if they could not make money they would not sell, and that would settle the law in short order. Another paper in Philadelphia denounces a "commercial war" waged against that State.

Lines of improved barges adapted to the transportation of all kinds of merchandise are to be run from New Orleans to St. Louis, Cincinnati and Pittsburgh in the belief that imported goods from Europe can be distributed in this way through the country as cheaply as from New York.

Manufactures of silk in the United States have more than doubled in value during the last decade, but it does not yet appear that silk fiber from the coccon can be profitably grown in this country. California did well, but the results were not a commercial success.

The report is revived, by way of Panama, that the Rothschilds and Baron Hirsch are at the head of a new canal syndicate and will each subscribe 25,000,000 francs, provided an extension of the canal concession can be obtained.

Mayor Gilroy resolutely opposes the construction of Dr. Rainey's bridge to Long Island.

A bill for the consolidation of New York and its environs on Long Island and Staten Island, as well as in Westchester County, is before the Legislature, and will provoke a long discussion.

Southern planters are receiving liberal offers of standard fertilizers in exchange for cotton seed from which to extract the oil.

A bill in the New York Legislature is intended to prevent the backlisting of delinquent debtors, practically giving to the latter the protection of the courts.

The Bank of England holds about $15,000,000 more gold than it did a year ago, the Bank of France $40,000,000 more, the Bank of Germany $12,000,000 less, the Bank of Austria $25,000,000 and the Bank of Spain $2,500,000 more.

The bill leasing to an American syndicate the bituminous coal mines at Cape Breton passed both branches of the Nova Scotia legislature and has become a law.

Advices from the War Department at Washington intimate that both the sword and the saber may be abolished as obsolete weapons, short firearms having taken their place.

The Pacific Mail Steamship Company decline to receive freight at San Francisco for New York via the Isthmus.

Never but once before since the white man settled the country was the Mississippi frozen from shore to shore and an ice gorge formed at Memphis.

Touching the silver question, a prominent banker has prepared a list of United States railroad bonds exceeding three thousand millions of dollars, the principal and interest of which are payable in gold. As given in Poor's Manual, the total bonded debt of our railroads last year was $5,235,295,000.

In Ohio the labor unions, by addressing circulars to workingmen, have induced so many to leave military organizations that some of the regiments of National Guards are much weakened, particularly the First Regiment from Cincinnati, and they might not be very efficient in quelling disorder.

In response to a resolution of the House calling for information on the subject of the transit of merchandise from one port in the United States to another port in the United States, through Canada in bond, President Harrison sent in a message stating that the law did not contemplate the passing of sealed cars to any place not "a port," and that a policy adapted to the new conditions growing in part out of the construction of the Canadian Pacific Railroad should be declared.

Secretary Wilson of the New York Chamber of Commerce presents statistics showing that the present market value of the silver purchased by the Government since the passage of the Silver act of 1878 is $351,457,257. It cost the Government $432,372,907. The loss in value of the metal amounts to $80,915,650.

Pittsburgh's assessed valuation increased last year $13,000,000.

Manufacturers in Findlay who had contracted for natural gas supplies disregarded a notice served upon them to substitute oil wherever it was possible. So last week when a secret tour was made by the natural gas superintendent a charge followed that 50,000,000 feet had been stolen during the past month. Now there is trouble.

The last fair of the American Institute yielded only a trifling margin of profit, less than for several years. The total value of the Institute property is $235,000, and it is proposed to spend $150,000 in improvements.

Some of the Canadian Government organs are not as amiable as they were. Last week a dispatch was telegraphed from New York that Professor Goldwin Smith of Toronto intended to call on Mr. Cleveland to obtain, if possible, "a better market" and "freer trade." The government organ in Toronto, referring to this circumstance, speaks of the "renegade Englishman," and is "not sure but even in these days of leniency he has gone far enough to bring him within the law of treason." Clearly enough Mr. Smith's efforts are not appreciated.

The exports from the United States to Argentina of agricultural implements for 1892 were valued at $1,910,747, against $527,585 the previous year. The grain harvest in that country, which began early in December, promised great abundance.

The accumulation of "wheat in sight" constantly grows, despite the effort on the part of speculators to suppress the facts. In January, as in December, the stock in Western hands increased, contrary to all precedent. Last week there was an unexpected additional discovery of wheat in store in the Northwest, bringing the grand total of available stocks of wheat to the hitherto unattained total of 107,870,000 bushels, as compared with only 67,183,000 bushels one year ago, after we had harvested the largest wheat crop in the history of the United States.

Under the Reciprocity Treaty with Hawaii sugar grown in those islands was admitted into the United States free of duty, and the planters were making 75 to 100 per cent. on their plantation investments. The subsequent remission of duty on the part of the United States amounted to something like $6,000,000 a year. Now that not more than 10 per cent. can be made on sugar cultivation, the planter sees in annexation the advantage of the 2 cents per pound bonus.

A report from Ottawa says that the French Government propose to buy the Sudbury nickel mines in Ontario, the object being to manufacture nickel steel armor plates for the navy.

Englishmen have cleared 18,000 acres of land for a sugar plantation in the island of Lambasoe, of the Fiji group.

The report to the New York Legislature of the State Board of Mediation and Arbitration argues that arbitration for the settlement of grievances and disputes should be made compulsory upon all corporations.

British shipowners and the London Board of Trade concur in asking that the Government shall arrange with the United States for the suppression of "crimping" seamen at San Francisco. The seamen on arriving are practically kidnaped and held until the ship is ready to sail, when they are sold at an exorbitant charge.

The Mexican treasury authorities have an arrangement that operates like a trap when deposits are made, and forfeited on account of non-compliance with the terms agreed upon. Many thousands of dollars have lately been scooped into the Treasury where concessions have been canceled.

Plans have been approved for the construction of a $400,000 bridge across the Harlem River at Kingsbridge.

The new pier of the Inman Steamship Line in this city will be 700 feet long and have a two-story shed of iron and steel.

Ocean steam navigation as concerns the United States is passing through a new stage of development. There is a louder call than ever for increased service, particularly in the coastwise trade on both sides of the continent, and railroad corporations are more than ever inclined to have a transatlantic service under their own control. Unfortunately, the new tonnage called for will be largely the product of foreign yards. First in prospect are the new ships of the Inman line, to be of American build. Then there are the new freight steamers for the Chesapeake & Ohio Railroad, to be built on the Clyde, at once. And besides a proposed line between Philadelphia and Jacksonville, Fla., for fruit transportation, the Trades League of that city are making an earnest effort to establish a first-class line to Havana, Mexico and other Southern points. From San Diego, Cal., word comes that a through line is just going into operation between that port and Mazatlan, in Mexico. Of deeper significance is the rivalry taking place to secure control of the California trade by water routes, as the clipper lines seem destined to contend with a stronger opposition growing out of the disruption of the old joint arrangement between the Panama Railroad and Pacific Mail Steamship companies. The latest scheme is to start a line of English built steamers from New York around Cape Horn to Chili and Peru. The pioneer steamer, "Coya," from Swansea, to sail in a few days, will be followed, it is stated, by vessels which have been contracted for in English yards at a cost one-third less than it could have been five or six years ago. As an experiment this long-voyage business, covering about 8000 miles, will be interesting.

At Springfield, Mass., the National Needle Company make and finish every year 30,000,000 machine needles.

The Iron Age

New York, Thursday, February 9, 1893.

DAVID WILLIAMS, - - - PUBLISHER AND PROPRIETOR.
CHAS. KIRCHHOFF, - - - EDITOR.
GEO. W. COPE, - - - ASSOCIATE EDITOR, CHICAGO.
RICHARD R. WILLIAMS, - - HARDWARE EDITOR.
JOHN S. KING, - - - - BUSINESS MANAGER.

The Cincinnati office of *The Iron Age*, in charge of Henry Smith, manager, has been removed from the southeast corner of Fourth and Main streets one square north, to the Pickering Building, on the southeast corner of Fifth and Main streets, opposite the United States Custom House and Post Office.

Foreign and American Prices.

The extraordinary decline in prices of iron and steel during the last year in this country has suggested an inquiry into the relative position of values here and in the principal producing districts abroad in some of the leading lines.

Beginning with pig iron, we find that in the Cleveland district, in the North of England, forge pig has been selling lately at $8.37, while in Birmingham, Ala., material equivalent in quality has been quoted $8.50. Apparently there is therefore little difference, but our cheap Southern iron must carry freights to the consuming markets, which would make it $12 at St. Louis, $12.50 at Chicago and $11.25 at Cincinnati. Lehigh Valley gray forge is $12.25 at furnace, and Pittsburgh metal of the same grade is selling at about the same figure. Delivered to home consumers, therefore, mill iron is about $3 to $4 cheaper in England.

Scotch No. 1, good makers' brands, sells at Glasgow at $10.63. With us standard foundry brands sell at $14.50 to $14.75 at tidewater markets, while what is termed American Scotch commands $14 to $14.25 in Chicago. Here, then, is again approximately the same difference. Bessemer pig at Barrow, in the English Cumberland district, was lately quoted at $11.30. In Pittsburgh the same grade of metal fetches $13.15 and in Chicago $14, while in Eastern Pennsylvania $15 to $15.50, at furnace, is a very close quotation. Ores are cheaper in England, local hematite at Barrow selling at $2.07, while $4 to $4.25 is the quotation for richer ores at Cleveland, Ohio. Coke, however, is much dearer, fetching $3.10 for Durham, delivered at Middlesborough, England, while furnaces in Western Pennsylvania probably pay $2.25, delivered.

In soft steel the lowest figures made are those which were recently current in the Rhenish Westphalian district in Western Germany, where 72 marks, or $17.88, has been done with basic pig at $10.91. Pittsburgh thus far has no record lower than $21.25, with $13.15 as the cost of the raw material. In steel rails, $18.22 has been done in the Cleveland district and in Wales. The American mills are asking $29 at tidewater, or say $28.85 at works.

Staffordshire marked bars figure out 1.52 cents per pound, which compares with a range of 1.50 and 1.75 cents for the best grades of puddled iron at our own rolling mills, East and West. Common bars are quoted 1.09 cents at Middlesborough, against 1.40 cents in the Mahoning Valley and in Eastern Pennsylvania, a difference of nearly $7 per gross ton.

Iron plates fetch 1.03 cents at Middlesborough, while they bring, say, 1.70 cents in Eastern Pennsylvania. Scotch Soft steel, boiler plate, costs 1.27 cents per pound at Glasgow, which compares with, say, 2 cents at Eastern mill for shell steel, or nearly $8.25 per ton more.

The Germans are the most vigorous competitors on steel beams, the open quotation being 85 marks at Burbach, or 0.94 cent per pound, which contrasts sharply with our 1.85 rate at mill. German makers quote wire nails at 125 marks per metric ton, which figures out 1.38 cents per pound. Our price at mill has been as low as $1.32½ per keg.

The figures which we have quoted pretty clearly show that while prices on both sides of the Atlantic unquestionably have approached one another, in consequence of the unprecedented decline here; they are still very far apart. An additional quarter of a dollar on pig iron or soft steel, or a further tenth of a cent on most lines of manufactured shapes would put a tremendous strain upon our manufacturers. When a certain low level of cost has been reached, every further small reduction is as difficult and as significant as is the reduction of the record of a trotting horse by a further fraction of a second. It will require revolutionary changes in the rates of wages paid in the cost of transportation and in furnace and mill practice before we can reach European selling prices.

Freight Discriminations.

Manufacturers are restive under freight discriminations, which are specially onerous and aggravating in this era of low prices. The system on which freight rates are based appears to be devoid of the elements of fairness, advantages being given to manufacturers in one locality over those in another. A few instances of this kind are so flagrant that they are worthy of special note. An Eastern Pennsylvania manufacturer of bars, plates or shapes finds, in competing for business in points in New England, that Western Pennsylvania manufacturers are enabled to reach the same points at but 2 cents per hundred pounds advance in freight. When he endeavors to secure orders at Chicago or other points in the central West, however, he is obliged to pay 10½ cents more than his Western Pennsylvania competitors. It is a curious problem in railroad financiering how 2 cents on eastbound freight are equivalent to 10½ cents on westbound of the same character.

The rate on pig iron from Chicago to St. Paul and Minneapolis is $2.50 per ton, but Southern pig iron, perhaps passing through Chicago, nets the railroads only about $1.75 for the same haul. If the latter is a fair and reasonable rate, the former is too high, the excess plainly handicapping the local pig iron producers in reaching consumers in the Northwest.

In hauling coke from the Connellsville region to the extreme Northwest, the pro rata accepted by the Eastern roads running to Chicago is $2.40 per ton, but on coke destined for Chicago consumption the rate is $2.75 per ton. If the $2.40 rate is fair compensation on the small tonnage carried through, certainly $2.75 is an exorbitant charge to make on the very large quantity consumed in the vicinity of Chicago.

Freight discriminations are not new, but if there ever was a time when they should be corrected it is now, when every cent of expense on a ton counts so heavily for or against a manufacturer.

World's Fair Troubles.

The final allotment of space by the managers of the World's Columbian Exposition brings a fresh crop of troubles. The pressure for room has been very great, so great in fact that arrangements for space made long since by prominent manufacturers have been interfered with and their allotment so heavily cut down that they do not see their way clear to make any exhibit whatever. During the past week the fact became known that the iron and steel section was likely to lose the displays of the products of the Illinois Steel Company and other large concerns. They have given formal notice that they will not exhibit, and unless some new arrangement is made with them by the exposition authorities they will be unrepresented when the doors are thrown open in May. These companies were awarded space in the Mines and Mining Building at a time when every effort was being put forth by the exposition managers to insure a creditable display in every line of domestic industry. Arrangements were at once put under way to get their exhibits ready, with due regard to the space to be occupied, and considerable sums of money have already been expended in making the necessary preparation. Now they are informed that they will have to be satisfied with but about one-third the space which they believed was reserved for them, and in at least one instance that space is in a very undesirable location. To attempt at this late day to rearrange their plans and practically get up a new exhibit involves more expense, which they are unwilling to incur in view of the lessened importance of what they will then be able to show.

It is particularly to be regretted if the exhibit of the H. C. Frick Coke Company shall not be made. This was to be a particularly fine piece of work, showing in miniature one of the company's finest plants, with ovens, railroads, hoisting machinery, crushing apparatus, &c., represented exactly as they exist. This was naturally expected to attract much attention, and would certainly have been vastly more interesting than mammoth chunks of coal, great bowlders of ore, towering pillars of fire brick or pyramids of any mineral products. Space should be given for such an exhibit as this, even if ore miners or coal operators were a trifle

crowded so as to get it in properly. The Carnegie Steel Company's exhibit is hardly less important. The people of this country wish to see specimens of the armor plate and special shapes of all kinds of structural material with which the name of this company is now inseparably connected. They proposed, among other things of note, to show a steel ingot weighing 30 tons, which only five years ago could not have been made by any concern in this country. As to the Illinois Steel Company, a Chicago exposition without an exhibit of what they are able to do would be a curiosity indeed. It is true that their largest works are within three miles of the grounds, and are, therefore, easily reached by visitors to the fair who wish also to see what this great company manufacture, but this very proximity is a greater reason for wonder that their products are not among the exhibits.

The exposition managers have endeavored, it is true, to retain these companies as exhibitors, offering them locations on the grounds for separate buildings in which all the space needed could be provided independently. This offer, however, comes too late, with but about three months intervening until opening day. Besides, considerably more expense would be involved, and as there is no direct financial benefit to be reaped from exhibiting their products, the companies referred to have declined the tender of building sites with thanks. The criticism is made that unimportant concerns have been allotted more space than these great establishments, but we hope that this charge is unfounded. We have been under the impression that wise discrimination governed the management in the allotment of space, that due regard was being paid to the comparative value of exhibits, that judicious pruning was being done so as to secure for the exposition the very best display of domestic products, and that reductions in special allotments of space were made only under the great pressure for room and with the above ends steadily in view. We are still loth to think otherwise, but if the charge made is correct and obscure concerns making nothing of special interest to the trade at large or to the general public have been favored with generous allotments, there should be an immediate revision in this respect and more consideration given to these important exhibitors. Their absence will not ruin the exposition and perhaps hundreds of thousands of visitors would not observe their omission, with such a bewildering array of exhibits of all sorts, but those who are interested in the progress of the iron and steel and allied industries will keenly appreciate the gaps thus made in their line.

The most interesting feature in connection with the statistics of the production of Bessemer steel printed elsewhere is the enormous growth in the use of soft steel. Figuring the equivalent in ingots of the rails produced, and deducting it from the total output of Bessemer steel, it appears that the quantity of soft steel made in 1892 was about 2,300,000 tons, as compared with about 1,650,000 tons in 1891, an increase of 650,000 tons in a single year. The data for the production of open-hearth steel are not yet available, but it is sure that they will very considerably swell the aggregate gain. Surprise is expressed at the aggregate of the steel rail figures. In some respects it is astonishing that it was not larger, particularly in the direction of light sections and street rails. The shipments of standard sections by the mills in the association were 1,260,141 gross tons in 1892, against 1,089,092 tons in 1891, thus accounting for 171,049 tons increase out of a total of 219,350. Estimating on the Colorado mill, which is not in the association, and which in 1892 made 24,384 tons of rails of all sections, the total quantity of other than standard rails increased only from about 140,000 tons in 1891 to about 190,000 tons in 1892. We must confess our surprise that the amount for light rails, for street rails and for girder sections, with the great development in electric city and suburban lines was not very much greater. The Pennsylvania mills shipped 759,989 gross tons of standard sections, which would seem to leave 125,663 tons of light sections. Illinois is down for 411,477 tons of standard, leaving only 39,076 tons of light rails.

The Valuation of Canada.

"Catch your hare before you cook it" is a remark that will apply in the discussion now taking place in many of the newspapers with reference to the probability and expediency of closer relations between Canada and the United States. Not a few in their zeal go so far as to calculate the practicability of territorial annexation and the possible advantages to be derived therefrom. Looking for antecedents they find some analogy in the acquisition of Florida and Louisiana. The discussion proves to be exceedingly irritating to the Conservatives, now in power at Ottawa, especially as the Liberals—who were defeated only by a scant majority at the last elections—openly proclaim "freer trade" as a cardinal principle, and are so far compromised in the scheme that at least one of their most active advocates, Goldwin Smith, is charged by the Government organ with treasonable purposes.

In the present posture of affairs it is well to understand something of the fiscal and commercial condition of the Dominion, discreetly postponing until a later day, to await developments, any consideration of the extent of territory embraced in the region known as "British North America," its varied resources and other details properly included in a fiscal valuation of the property. With this limitation the annual statement from Ottawa showing Canada's balance sheet for January 1, 1893, is convenient for reference and timely in its appearance. The indebtedness of the country, the value of its public works and the profitableness of its foreign trade are important features in any investigation of the character intimated. The figures for 1892 are given by the Minister of Finance.

In 1881 the net debt of the Dominion was $155,395,780, involving an annual charge of $6,839,631. Since that time there has been spent upon the Pacific railway, $45,553,000. In the enlargement of the canals $17,463,000 have been expended since 1881, while in the construction of the Intercolonial and allied railways there has been put out in the same period, for the same purpose, the sum of $16,630,000. These outlays, made within about a decade, aggregate some eighty million dollars, and have, of course, caused a corresponding increase in the national debt. Besides, meanwhile, the Dominion has assumed the indebtedness of several provinces to the amount of $90,000,000. The Government official papers contend that this is not a bad showing, since, while the increase of debt within the decade has been 55 per cent., the interest charge has been increased only 27 per cent., the argument being that to-day "the Dominion can borrow whatever capital is required for investment in public works of general utility at uniformly less cost than was entailed ten years ago," all of which goes to prove that "to-day the credit of the Dominion stands third among the nations of the world and first among the colonies of the Empire."

Next, in regard to foreign trade:

With the help of statistics furnished by the Canadian Government the Bureau of Statistics at Washington is enabled to present a statement of imports into the United States from British North America, and imports into British North America from the United States, for the last ten years, as follows, the figures for 1892 being only approximations, for lack of sufficient data:

Years.	Imports into U.S. from B. N. A.	Imports into B. N. A. from U.S.	Excess of imports into B. N. A.
1883.....	$44,740,876	$65,018,933	$20,278,057
1884.....	39,015,840	59,845,968	20,830,128
1885.....	36,960,541	53,397,608	16,437,067
1886.....	37,496,338	49,773,232	12,276,894
1887.....	38,015,5?4	51,937,050	13,921,466
1888.....	43.084,123	54,706,161	11,622,038
1889.....	43,009,473	57,412,887	14,403,414
1890.....	39,396,980	61,671,070	22,274,090
1891.....	39,434,535	59,340,058	19,905,523
1892.....	35,334,547	61,715,491	26,380,944

The foregoing will assist in giving a bird's-eye view of the assessable valuation of the extensive territory lying beyond our northern border. Other elements in the calculation may be gathered as opportunity occurs, when there is any reasonable prospect of bagging the game.

The Ohio Institute of Mining Engineers met on Thursday and Friday of last week at Columbus. The following interesting papers were read: "The Cambridge Coal Fields," by District Mine Inspector William H. Turner of Cambridge; "A Standard Grade of Powder Necessary for Mines," by ex-District Mine Inspector James W. Haughn of Nelsonville; "Fire Clay Industry in the Hocking Valley," by District Mine Inspector John E. Short; "A Practical System of Mining Coal in Ohio," by District Mine Inspector Thomas A. Love of Leesville; "Explosives," by ex-District Mine Inspector Capt. J. L. Morris of Canal Dover; "Mine Surveying," by William Hibbs, M. E. Scio, Ohio; "Tests of Prominent Ohio Building Stone," by C. M. Brown of the Ohio State University; "Miners' Sunshine and Its Uses," by ex-District Mine Inspector Wm. B. Rennie of New Philadelphia, and "Sewerage, Drainage and Water Supply," by Prof. F. W. Sperr of Ohio State University. The meeting was one of exceeding interest. In addition to the papers Governor McKinley, Anthony Howells and E. B. Williard of Hanging Rock made interesting addresses.

CORRESPONDENCE.

The Annexation of Canada.

To the Editor: A short time ago you had an article on "Our Northern Boundary," speaking of the growth of the annexation sentiment in Canada.

As there is a good deal of misapprehension regarding this movement, perhaps you will allow me as a Canadian to say a few words.

There is a strong under-current in favor of annexation here, much stronger than any one would suppose unless he had carefully examined the subject, and the strength of this feeling is only known to those who have openly espoused the cause.

The agitation, however, is being conducted in a perfectly legitimate and constitutional manner. The Continental Union Association of Ontario, in its articles of organization, provides as follows: "This association shall be known as the Continental Union Association of Ontario, and is organized for the purpose of promoting by all peaceful and constitutional means the reunion on fair and honorable terms of the Dominion of Canada and the United States of America, with the consent of Great Britain."

There are branch associations throughout the Province with the like aim and object, having the same constitution.

Sir John Thompson, the Premier of Canada, during last session, speaking from his place in the House of Commons as Minister of Justice, stated that the advocacy of political union with the United States was not illegal so long as those advocating the union confine themselves to peaceful agitation and do not propose to bring about such result by force of arms. This is what we are doing, and, judging by the actions of our opponents, we have the best of the argument, for they do not attempt to answer us except by shouting "traitors" and "treason."

But we annexationists contend that it would not only be of the greatest benefit to Canada for us to join the United States, but would also be a benefit to England. Canada in its present state is of no advantage to England, but rather a source of weakness and annoyance through embarrassing questions which may arise between Canada and the United States, which would be solved once and forever by political union and insure a lasting and permanent peace throughout the North American continent.

In this way it would also be of equal benefit to the United States and by doing away with much of the necessity for militarism would give full scope to the development of the greatest country in the world.

What grand developments of civilization might not such a nation aspire to, commencing with a population of 70,000,000 of intelligent and enterprising Americans, possessing the whole North American continent, and being at the same time on peaceful and cordial terms with Great Britain and the rest of the world.

Yours, &c., T. D. LEDYARD.

TORONTO, CANADA, February 2, 1893.

The Worcester Polytechnic Institute has just admitted to its Mechanical Engineering Department a new class of 68 men. This will be the last class entering for a three and a half years' course, the corporation having recently voted to make all courses hereafter four years in length. The whole number of students in the institute this year is 275, about 200 of whom are in the Mechanical Engineering course.

The ore dock being built at Oneota, near Duluth, for the Duluth, Mesaba & Northern Railroad, will be the largest on the lakes. The length is 2,500 feet, width 50 feet, and hight above mean water level 52½ feet. About 12,000,000 feet of lumber is required for its construction, and it will cost when completed $400,000. At Two Harbors, the Duluth & Iron Range Railroad is also arranging for a great increase in dockage preparatory to opening its branch into the Mesaba.

The Launch of the "Katahdin."

On February 4 the Ammen ram, "Katahdin," was launched from the Bath (Maine) Shipyards. This vessel marks a departure, or we might more appropriately say a revival, in marine architecture. She is not designed for great speed, her tonnage is small compared with modern war ships, her protective armor is not unusually thick and she is not provided with guns of large caliber. As the name implies, the hull of the vessel will constitute the most effective destructive agent.

She is built throughout of steel and is of the following principal dimensions: Length over all, 251 feet; extreme breadth, 43 feet 5 inches; extreme depth of 21 feet; normal draft, 14 feet 11 inches; fighting draft, 15 feet 5 inches; displacement at latter draft, 2240 tons.

The construction of the hull is decidedly unique. She is built upon the bracket system and has a double bottom, extending from the forward collision bulkhead to the stern. The longitudinals and the girders supporting the deck are continuous to the stem and stern.

The vessel, considered as a whole, is of great structural strength.

The space between the two bottoms is divided into 72 water-tight compartments, while there are 30 compartments in the body of the vessel, between the inner body and the deck, thus making a total subdivision into 102 water tight compartments.

The vessel lies very low in the water, and a transverse midship section is not greatly unlike two superimposed elliptic arcs, the sides meeting in a sharp, blade-like edge. This is for a distinct purpose. It is in order that the ram, after striking, will continue its destruction by tearing or cutting the enemy's side. Furthermore, it will increase the efficacy of a glancing blow, the sharp edges being expected to rip up the side of the hostile ship, instead of glancing off comparatevely harmless.

Another notable feature is the curved keel, which furnishes exceptional turning facilities and better lines for propulsion.

The protection against hostile fire consists, in addition to the cellular subdivision already referred to, of a turtle-back armored deck and a belt of armor on the sides. The outside strake of deck armor is 6 inches thick, the next strake 5½ inches, thence tapering to 2½ inches at the crown amidships. The side armor, which is immediately below the outer strake of deck armor, forms, with the latter, the sharp, blade-like edge of the ship. It is in two strakes, the upper one 6 inches and the lower one 3 inches in thickness. The side armor and the outer deck armor has a heavy backing of yellow pine.

This armor is sufficiently thick to be impervious to any shot or shell of the present day under the ordinary conditions of a sea fight. The turtle-back deck presents a small target and such a small angle of impact as to be able to deflect easily any shot hitting it horizontally. The only objects visible above the deck will be the smoke stack, ventilators, conning tower and such comparatively unimportant light works as boat and anchor davits, signal mast, machine guns, &c. All the hatches will have armored battle plates, to be placed over them when in action. The smoke stack and ventilators will have 6-inch inclined armor over their lower parts, while the conning tower will be armored with 18 inches of steel.

The machinery will consist of two triple-expansion engines, propelling twin screws. These engines are each placed in a separate water-tight compartment. The diameters of the high, intermediate and low pressure cylinders are 25, 36 and 56 inches respectively, and the stroke 36 inches. The total indicated horse-power is 4800, and the contract speed 17 knots, although 18 knots is expected. The total coal supply at normal draft is 180 tons.

The vessel will carry four 6-pounder rapid fire guns as a protection against torpedo-boat attack, but this will be her sole battery. The crew will number 7 officers and 84 men—91 in all.

The construction of the ram was authorized by act of Congress of March 2, 1889, and the contract for building awarded to the Bath Iron Works at their bid of $930,000. The work of laying down in the mold loft was begun on April 3, 1891; the keel was laid August 4 following; first rivet driven August 18, and first frame placed in position on August 22, 1891.

The construction of the hull has been under the direct supervision and guidance of C. R. Hanscom, the firm's superintendent of ship building, aided by W. C. Besselievre, chief draftsman. The machinery was designed by Charles E. Hyde, superintendent of marine engines.

The Government inspector of the hull is Naval Constructor John B. Hoover, U. S. N., and of the machinery Chief Engineer G. M. L. Maccarty, U. S. N.

The boat was designed by Rear Admiral Ammen, U. S. N.

Freights on Tin Plate.

Chairman Midgely of the Western Freight Association, Chicago, has issued a ruling in regard to the use of proportional rates on imported tin plate. Some time ago a rate of 12½ cents a hundred pounds from Mississippi River crossings to Southwestern Missouri River points on tin plate shipments via Newport News and Baltimore was authorized on the application of the Kanawha Dispatch and the Continental line, addressed to the Chicago & Alton road. The latter road had acquired the right to make the rate by a notice duly filed and acted upon. Subsequently the Grand Trunk applied for the use of the same rate in connection with the shipments via Portland, Maine, and Montreal, and the authority was granted. Then the Rock Island requested the privilege of making the same proportional rate on tin plate consigned to Omaha and Council Bluffs. The authority was given, but restricted to imports via Newport News and Baltimore. It afterward was learned that the other lines were applying the rate on offerings at Mississippi River crossings destined to Missouri River points when imported via Philadelphia. Consequently a ruling was asked for.

In deciding the question, Chairman Midgely says that the proportional rate of 12½ cents may be used on deliveries of tin plate imported via any Atlantic port on the written application of the initial seaboard line. Inasmuch as the Kanawha Dispatch and the Continental line are at liberty to quote rates at their discretion to East St. Louis on shipments destined beyond, other lines from the seaboard should be equally free to quote rates from their seaports to the Mississippi River crossings. In case they should do so, Chairman Midgely decides that lines in the Western Freight Association may accept their agreed proportions of such published proportional rates on tin-plate shipments destined to the Missouri River and beyond. This rule is effective from and after February 6.

The Carnegie Interests.

The Pittsburgh papers last week gave considerable prominence to a report that a new wage scale had gone into effect at the Edgar Thomson Steel Works, which carried with it a material reduction in wages, causing considerable dissatisfaction among the men. We are officially advised that this report is untrue in many particulars, no new wage scale having gone into effect at the above works for the reason that the present wage scale which went into effect on January 1, 1892, and which does not expire until December 31, 1894, is still in force. However, the fact that the Edgar Thomson plant has gone on billets several times within the past two or three months has made it necessary to arrange a new scale of wages for rolling billets, and this is now being done. The firm take the position that it is impossible to pay present wages which are based on steel rails for rolling billets; and as it is probable that billets will be rolled at the Edgar Thomson plant more or less from this time forward, a new scale of wages governing this class of product has become a necessity. Up to this time, however, the wages of the men, whether billets or rails was the product, have been paid according to the scale now in force; and it is needless to state that the new scale to govern billets will be a considerable reduction over the present one.

The visit of Andrew Carnegie to Pittsburgh last week gave rise to a report that upon the occasion of his visit in connection with other Carnegie officials to the Duquesne Steel Works a plot of ground had been selected upon which the firm will immediately commence the erection of two blast furnaces. We can state that, while the question of putting up two or three blast furnaces at Duquesne for the purpose of making Bessemer metal for the Duquesne Steel Works has been under consideration by the firm for a long time past, the matter is in the same condition as it was about a year ago. There is no question of the fact that eventually two or three blast furnaces will be erected adjacent to the Duquesne Steel Works, but just when operations will be commenced on the building of these furnaces has not been decided upon and may not be determined for a long time.

Washington News.

(*From Our Regular Correspondent.*)

WASHINGTON, D. C., February 6, 1893

It was expected that the Speaker would recognize Representative Chas. W. Stone of Pennsylvania to day for the purpose of moving to suspend the rules and take up his bill for "establishing a standard gauge for sheet and plate iron and steel," but the opponents of the bankruptcy bill resorted to filibustering which prevented the Speaker from giving Mr. Stone the promised opportunity.

The following is the complete report of the Committee on Coinage, Weights and Measures on the Stone bill, which contains much explanatory matter of value and interest to the producers and consumers in the line of metallurgical products concerned:

The Committee on Coinage, Weights and Measures, to whom was referred the bill (H. R. 8099) entitled "A bill establishing a standard sheet and plate gauge," respectfully report:

Your committee have carefully considered said bill, and, while its purpose and general outline are worthy of approval, its details and modes of expression are, in the opinion of your committee, so far capable of improvement that they report the accompanying bill as a substitute for the one committed, and recommend its passage.

The purpose of this bill is to establish an authoritative standard gauge for the measurement of sheet and plate iron.

A gauge is as necessary to the manufacturer, the workman and the dealer in sheet iron and steel as a yardstick to the dry goods merchant or scales to the grocer. Contracts between the manufacturer and workmen and sales and purchases are all based upon and regulated by the terms of a gauge. This gauge designates by certain numbers the different thicknesses of the iron plates and sheets. There is, however, in this country no uniform or standard gauge, and the same numbers in different gauges represent different thicknesses of sheets or plates. This has given rise to much misunderstanding and friction between employers and workmen and mistakes and fraud between dealers and consumers.

There are probably a dozen different gauges in use in the United States and no two are alike. Those best known and in most general use are the New Birmingham, the Old Birmingham, the Brown & Sharpe and the Amalgamated Association gauge. All use descriptive numbers to designate the different thicknesses of plate and sheet, but in no two does the same number indicate the same thickness. For instance, No. 28 in the New Birmingham gauge designates a sheet .0156 inch thick and weighing 10 ounces to the square foot, while the same number in Brown & Sharpe's gauge designates a sheet .01264 inch thick and weighing 8.08 ounces per square foot. No. 27 in the Amalgamated Association gauge designates a sheet .018 inch thick and weighing 11.5 ounces per square foot, while No. 27 of Brown & Sharpe's gauge describes a sheet 0.1419 inch thick and weighing only 9.072 ounces per square foot. Here is a variation or difference of over 20 per cent. between gauges in actual and general use. No. 29 of the Amalgamated Association gauge would be only No. 27 of Brown & Sharpe's gauge. The confusion, uncertainty and injustice thus produced in business transactions can hardly be estimated One gentleman states, as an illustratson, that in a single contract made by him it would make a difference of $40,000, dependent upon what gauge regulated its performance.

The workman having in mind the Amalgamated Association gauge or the New Birmingham gauge when he made his contract would lose nearly a quarter of his wages if compelled to settle by the Brown & Sharpe gauge.

The purchaser ordering simply by the descriptive number might be forced to receive sheets thinner and lighter by one-fourth than he understood he was contracting and probably paid for.

The United States imposes tariff duties on sheet iron and steel by their descriptive gauge numbers, but there is no legal, authoritative standard for determining just the thickness of sheet their numbers describe if dispute should arise. The practice of describing the different thicknesses of sheet and plate iron by gauge numbers has been so long established and become so universal both here and in Great Britain that it is not deemed advisable to change this mode of designation, but these descriptive gauge numbers ought to have the same meaning and significance at all times and under all circumstances.

To accomplish this and furnish a legal guide in the collection of Government duties, the United States should establish a legal standard gauge, and that is the object of this bill. None of the existing gauge tables or scales exactly meet the requirements of accuracy and convenience, nor rest on a systematic basis, but the one submitted by your committee in the bill which they recommend as a substitute for the one referred to them is believed to fully meet these requirements.

It is based on the fact that a cubic foot of iron weighs 480 pounds. This is the same basis on which the imperial gauge of Great Britain rests, and also the New Birmingham and Amalgamated Association gauges.

A sheet of iron 1 foot square and 1 inch thick weighs 40 pounds, or 640 ounces, and 1 ounce in weight should be $\frac{1}{640}$ inch thick. The scale has been arranged so that each descriptive number represents a certain number of ounces in weight, and an equal number of six hundred and fortieths of an inch in thickness, and the weights, and hence the thicknesses, have been arranged in a regular series of gradations. A micrometer for measuring the thickness of sheets and plates can be constructed to indicate six hundred and fortieths of an inch as easily as one-thousandths, and thus the measurement of a sheet of iron will give the thickness in six hundred and fortieths of an inch in weight in ounces at the same time.

It is probable that the adoption of this gauge will gradually lead to the abandonment of the numbers and the use of the number of ounces in weight per square foot as the descriptive terms of the different thicknesses of sheet and plate iron. It will become as easy to order a 20 ounce sheet as a No. 22, or a 10 ounce as a No. 28, and this will cause a more general and intelligent comprehension of just what is being contracted for, and the opportunity for mistake or fraud growing out of an uncertainty of designation will be removed.

A natural consequence also will be the substitution of such weight designation for the arbitrary methods now in vogue of describing tin and terne plates as IC, IX, IXX, DC, DX, &c.

In view of the fact that the metric system of weights and measures is made lawful in the United States by statute, and the gauges in use in France and most of the European countries are based on this system, it has seemed proper to give the equivalents in the terms of that system of the different descriptive scale numbers. This is urged by the American Society of Mechanical Engineers, and is simply a matter of computation made in accordance with the law on that subject, and has been verified by the Superintendent of the Coast and Geodetic Survey having charge of the standards of weights and measures and matters relative thereto.

It is proper to say that the gauge embraced in the substitute bill recommended by your committee has been agreed upon by the Amalgamated Association of Iron and Steel Workers, the Association of Manufacturers of Sheet Iron and Steel, and the National Iron Roofers' Association as the best practical gauge, and representatives of these associations appeared before your committee urging its adoption. It has been submitted to the Superintendent of the Coast and Geodetic Survey, who is also Superintendent of Government Standards of Weights and Measures, and is approved by him, with a provision for a tolerance or variation which has been added at his suggestion. It is also approved by the Secretary of the Treasury.

Your committee therefore recommend the passage of the substitute bill herewith reported.

WASHINGTON, D. C., January 24, 1893.

SIR: Referring to the personal interview had with you in regard to the proposed bill establishing a standard gauge for sheet and plate iron, I have to state that an examination of said measure satisfies me that it will be productive of uniformity and convenience so far as it may be applicable to customs matters, and I therefore see no objections to the passage of the bill.

Respectfully yours,

CHARLES FOSTER, Secretary.

Hon. CHARLES W. STONE,
Committee on Coinage, Weights and Measures, United States House of Representatives, Washington, D. C.

U. S. COAST AND GEODETIC SURVEY,
OFFICE OF THE SUPERINTENDENT,
WASHINGTON, D. C., January 23, 1893.

DEAR SIR: I return herewith the proposed bill for establishing a standard gauge for sheet and plate iron, with such corrections in the table of weights and thicknesses as are required to remove any inconsistency in the several equivalents. In its present condition I see no objection to its becoming a law and, as far as I am informed, no practical difficulty in its enforcement, provided a small, reasonable tolerance is allowed in the application of the table.

I am still of opinion, however, that it should be in the interests of justice to have such tolerance defined and fixed by law.

I am, very faithfully,
T. C. MENDENHALL, Superintendent.

Hon. CHARLES W. STONE,
House of Representatives.

The following is the text of the bill referred to in the report:

A BILL ESTABLISHING A STANDARD GAUGE FOR SHEET AND PLATE IRON AND STEEL.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That for the purpose of securing uniformity, the following is established as the only standard gauge for sheet and plate iron and steel in the United States of America, namely:

Number of gauge.	Approximate thickness in fractions of an inch.	Approximate thickness in decimal parts of an inch.	Approximate thickness in millimeters	Weight per square foot in ounces avoirdupois.	Weight per square foot in pounds avoirdupois.	Weight per square foot in kilograms.	Weight per square meter in kilograms.	Weight per square meter in pounds avoirdupois.
0000000	1-2	0.5	12.7	320	20.00	9.072	97.65	215.28
000000	15-32	0.46875	11.90625	300	18.75	8.505	91.55	201.82
00000	7-16	0.4375	11.1125	280	17.50	7.938	85.44	188.37
0000	13-32	0.40625	10.31875	260	16.25	7.371	79.33	174.91
000	3-8	0.375	9.525	240	15.	6.804	73.24	161.46
00	11-32	0.34375	8.73125	220	13.75	6.237	67.13	148.00
0	5-16	0.3125	7.9375	200	12.50	5.67	61.03	134.55
1	9-32	0.28125	7.14375	180	11.25	5.103	54.93	121.09
2	17-64	0.265625	6.746875	170	10.625	4.819	51.88	114.37
3	1-4	0.25	6.35	160	10.	4.536	48.82	107.64
4	15-64	0.234375	5.953125	150	9.375	4.252	45.77	100.91
5	7-32	0.21875	5.55625	140	8.75	3.969	42.72	94.18
6	13-64	0.203125	5.159375	130	8.125	3.685	39.67	87.45
7	3-16	0.1875	4.7625	120	7.5	3.402	36.62	80.72
8	11-64	0.171875	4.365625	110	6.875	3.118	33.57	74.00
9	5-32	0.15625	3.96875	100	6.25	2.835	30.52	67.27
10	9-64	0.140625	3.571875	90	5.625	2.552	27.46	60.55
11	1-8	0.125	3.175	80	5.	2.268	24.41	53.82
12	7-64	0.109375	2.778125	70	4.375	1.984	21.36	47.09
13	3-32	0.09375	2.38125	60	3.75	1.701	18.31	40.36
14	5-64	0.078125	1.984375	50	3.125	1.417	15.26	33.64
15	9 128	0.0703125	1.7859375	45	2.8125	1.276	13 73	30.27
16	1-16	0.0625	1.5875	40	2.5	1.134	12.21	26.91
17	9-160	0 05625	1.42875	36	2.25	1.021	10.99	24.22
18	1-20	0 05	1.27	32	2.	0.9072	9.765	21.53
19	7-160	0.04375	1.11125	28	1.75	0.7938	8.544	18.84
20	3-80	0.0375	0.9525	24	1.50	0 6804	7.324	16.15
21	11-320	0.034375	0.873125	22	1 375	0.6237	6.713	14.80
22	1-32	0.03125	0.793750	20	1.25	0.567	6.103	13.46
23	9-320	0.028125	0.714375	18	1.125	0.5 08	5.493	12.11
24	1-40	0.025	0.635	16	1.	0.4536	4.882	10.76
25	7-320	0.021875	0.555625	14	0.875	0.3969	4.272	9.42
26	3-160	0 01875	0.47625	12	0.75	0.3402	3.662	8.07
27	11-640	0.0171875	0.4365625	11	0.6875	0.3119	3.357	7.40
28	1-64	0.015625	0.396875	10	0.625	0.2835	3 052	6.73
29	9-640	0.0140625	0.3571875	9	0 5625	0.2551	2.746	6.05
30	1-80	0.0125	0.3175	8	0.5	0.2268	2.441	5.38
31	7-640	0.0109375	0.2778125	7	0.4375	0.1984	2.136	4.71
32	13-1280	0.01015625	0.25796875	6½	0.40625	0.1843	1.983	4.37
33	3-320	0 009375	0.238125	6	0.375	0 1701	1.831	4.04
34	11-1280	0.008593 5	0.2183125	5½	0 34375	0.1559	1.678	3.70
35	5-640	0.0078125	0.1984375	5	0.3125	0.1417	1.526	3.36
36	9-1280	0.00703125	0.178593 5	4½	0.28125	0.1276	1.373	3.03
37	17-2560	0.006640625	0.16867 1875	4¼	0.265625	0.1206	1.297	2.87
38	1-160	0.00625	0.15875	4	0.25	0.1134	1.221	2.69

And on and after July 1, 1893, the same and no other shall be used in determining duties and taxes levied by the United States of America on sheet and plate iron and steel.

Sec. 2. That the Secretary of the Treasury is authorized and required to prepare suitable standards in accordance herewith.

Sec. 3. That in the practical use and application of the standard gauge hereby established a variation of 2½ per cent. either way may be allowed.

Representative Stone has an interesting collection of gauges showing the differences between the thicknesses in vogue among English and American manufacturers.

The specifications under the bids for armor plate are still incomplete, owing to delays occasioned by the complaints of the manufacturers and the disposition of the Secretary to obtain some additional information. The steel men complain that the ballistic tests required by the specifications are too severe. The Secretary has authorized a test at Indian Head of one of the heaviest nickel-steel Harveyized armor plates. This plate is now on the way, and as soon as the Potomac is open to navigation the test will be made.

It is expected either this or next week.

It is expected that much valuable information will be added to that already accumulated on American armor plate, now confessed by the experts of all nations far in advance of the product of any other country.

The Coal Combination a Failure.

Ten months' operation has fully demonstrated the fact that the coal combination, although it has attained some very excellent results, is a failure. It will be remembered that it was formed in February and was based upon the triple alliance of Reading, Jersey Central and Lehigh Valley, with the promised co-operation of Delaware, Lackawanna & Western and Delaware & Hudson railroads. To-day the only remnant which is left of this mighty aggregation of interests as adhering to the old agreement are the Reading and the Lehigh Valley. The Jersey Central has withdrawn for reasons which are set forth below, while Delaware, Lackawanna & Western and Delaware & Hudson, judging from the year's return of their business, found it much more profitable to allow the Reading to bear the burden, while they looked sharply after the profits.

The advance in prices since the formation of the combination has been as follows; prices are for free-burning coals, f.o.b., tidewater:

	April.	May.	June.	July.	Sept. to Feb.	Advance
Broken	$3.65	$3.75	$3.75	$3.90	$4.00	.35
Egg	3.75	3.90	3.90	4.20	4 40	.65
Stove	3 90	4.15	4.15	4.50	4.75	.85
Chestnut	3.65	3.90	4.05	4.40	4 65	1.00

It will be remembered that the Reading's avowed and primary object in forming the combination was for the purpose of securing better prices for its coal and a larger tonnage. It will be seen from the preceding table that better prices have been secured, and it must be said in justice to the various interests that the present circular prices are rigidly sustained. This, however, is attributable to the long spell of cold weather rather than any effort on the part of competing interests to maintain good faith. The following table of the shipments of various anthracite roads during 1892 shows the exact status of the various companies:

	1892.	1891.	Changes.	
Reading & Lehigh Valley	$15,135,581	$15,821,549	Dec.	$685,968
Jersey Central	5,271,131	5,857,968	Dec.	586,837
Lackawanna	6,529,649	6,198,048	Inc.	331,601
Delaware & Hudson	4,058,526	3,939,917	Inc.	118,609
Pennsylvania	5,571,330	4,994,509	Inc.	576,811
Pennsylvania Coal Company	1,921,029	1,692,419	Inc.	228,610
Erie	1,388,824	1,304,271	Inc.	184,557
Ontario & Western	807,071	695,770	Inc.	111,301
Coxe Bros. & Co	1,210,187	43,882	Inc.	1,166,305
Total	$41,893,316	$40,448,333	Inc.	$1,444,983

From this table it will be seen that the year's increase was 1,444,984 tons. The Reading group, consisting of Reading, Lehigh Valley and Jersey Central, showed an actual decrease of 1,122,483 tons. The remaining companies not only absorbed all the natural increase, but the Reading's decreases as well, making their yearly increase over 1891 2,773,788 tons. Or, in other words, the Reading formed a combination and managed to sustain the same for the purpose of losing over 1,000,000 tons of coal and allowing its competitors to increase their product 2,750,000 tons.

It will be seen by the table that Coxe Bros. & Co. were given a separate tonnage, which is figured in the form of an increase. In reality this ought to be added to the Reading's tonnage, as that road has received the haulage of the coal. If this be done the computation will show that the Reading and Lehigh Valley have made an actual gain in tonnage of 480,337. This leaves the Jersey Central, which lost 500,000 tons of Coxe Bros.' shipments, with an actual decrease of over 500,000 tons for the year, and with no offsetting compensation. When this fact is fully realized, it is not difficult to discern the reason why Jersey Central recently withdrew from the triple alliance. It was done with many semi-official assertions that the company would work in harmony with the Reading in its interests. In the light of these statements, the trade was not able to determine just how the company expected to make up its tonnage, which, by the way, means a decrease of over $1,000,000 per year in gross revenue. Developments during the past week have shown that while the Jersey Central may intend to work in harmony with the other coal railroads, it will use every legitimate means in its power to regain its old prestige. Reference is made to the arrangement made between the company and the Pennsylvania Railroad Company, substantially in effect that Pennsylvania will give the Jersey Central coal from the Nanticoke region near Wilkesbarre, to be hauled to Phillipsburg, and there to be given to the Belvidere division of the Pennsylvania Railroad to be delivered at Trenton and on to tidewater. The Pennsylvania has been handling this business by way of Sunbury and Harrisburg to tidewater, a roundabout way, both inconvenient and expensive. The Jersey Central, in exchange for this business, will give the Pennsylvania at Phillipsburg the coal it has to deliver at points on the Pennsylvania's Belvidere division. This arrangement will draw a portion of Pennsylvania's business from the Delaware, Lackawanna & Western and the Delaware & Hudson.

Regarding these two last-mentioned companies, the table of shipments shows

that the Lackawanna increased its output for the year 331,601 tons. It earned in this year on its stock 9.98 per cent., against 9.21 per cent. in 1891. The Delaware & Hudson increased its output 118,609 tons, which, in proportion to the tonnage mined, is less than that of the Lackawanna. Notwithstanding this fact, the company earned this year 10.11 per cent., against 7.34 per cent. in 1891. Consequently the earnings of the Delaware & Hudson over the Lackawanna were 2.77 per cent., showing conclusively that the Lackawanna made its increased sales through the cutting of prices, while Delaware & Hudson secured both prices and sales.

The stock end of the coal combination reflects the situation. Wall street has about come to the conclusion that the actual combine, so-called, is going through a period of disintegration. This feeling is reflected in the price of stocks, as the following table will show:

	Feb., 1892.	1892.		Jan., 1893.	
	High.	High.	Low.	Low.	High.
Reading.....	65	65	38	48¾	53⅛
D., L. & W.....	167½	167½	138⅛	148¾	156⅛
Del. & Had.....	145	149½	122⅞	131½	139
Jersey Central...	145	145	111½	122⅜	132

It can be said that the companies are working in better harmony than has existed in a year. This, however, is due almost entirely to the unusually heavy demand for coal, conditioned upon the cold weather. When this slacks off a change of conditions will be apt to result, which is liable to precipitate the companies into competition.

OBITUARY.

WILLIAM CHARLES.

On Thursday, February 2, William Charles, proprietor of Charles Nut Works in Allegheny, Pa., died at the residence of his brother in that city. Mr. Charles was born in Ireland, and when a young man came to this country, coming direct to Pittsburgh, where he secured employment with Robert Carter, the original inventor of a machine for the manufacture of hot pressed nuts. Mr. Carter was succeeded by Carter & Rees and they by James Wood & Co., Mr. Charles continuing with the business through the changes until 1875, when he left that connection to engage in the manufacture of nuts on his own account, associating with him Mr. George McMurtry, the firm being Charles & McMurtry. In 1881 Mr. McMurtry retired, since which time the business has been conducted by Mr. Charles.

ALEXANDER STEEL.

Alexander Steel died at his home in Wichita, Kan., on January 27, 1893, in the sixty-seventh year of his age, diabetes being the immediate cause of his death. The deceased was born in Edinburgh, Scotland, in 1827, and removed to America with his parents when he was six years old. He spent his boyhood years in Chillicothe, and at an early age engaged in the mercantile business at that place. He has subsequently carried on the hardware business in Rock Island, Ill., and Denver, and returned to Rock Island, establishing in 1871 the hardware firm of Alexander Steel & Son. In 1885 Mr. Steel went to Wichita, and for eight years has been at the head of the hardware establishment of Alexander Steel & Co. Mr. Steel was a member of the First Presbyterian Church of Wichita.

The Central Labor Union of this city charges the police force with arresting several "pickets," and that "when a committee went to Inspector Williams to complain he told the men that he intended to arrest them all, and that if he were a manufacturer and a walking delegate were to come to him he would throw the delegate out of the window."

This Year's Scale.

In a recent interview with a representative of a Pittsburgh newspaper, President M. M. Garland of the Amalgamated Association of Iron and Steel Workers is quoted as having made the following statement regarding affairs of that organization, and also regarding the iron scale for 1893-94, which will be formulated when the above organization meets in Pittsburgh in June next:

"I do not find anywhere among the manufacturers, either in this or any other district, a feeling of antagonism to our organization, as it would seem to be made appear in some quarters. In my journeyings over the country I have found nothing but sentiments of kindness for the association expressed everywhere and a desire for a continuance of the friendly relations that have always existed between us and the manufacturers. Regarding the arrangement of this year's scale, there will not be any difficulty in settling it when the time comes. Of course, as usual, the convention will have to pass upon the various scales before they are submitted. There may be, however, this difference in handling some of the scales—that in place of a general scale committee acting on all of them, as was customary up to last year, committees representing certain branches of the trade may discuss their specific scales with the manufacturers. This was done last year with the sheet manufacturers, who, having formed an association, were desirous of bringing about a uniformity of prices throughout the mills. A committee composed of sheet workers and the general officers of the association met the manufacturers and arranged the scale. But this was done with the sanction of the convention, for every scale entered into must have the sanction of that body. If any manufacturer this year desires to arrange a special scale for any particular work he will be accommodated. The policy of the association is progressive and in line with the times. If the manufacturers think it would work better to have, for instance, a bar mill or guide mill scale apart from the general scale, there will not be any difficulty in appointing a committee of the workers at these particular jobs to arrange the prices with the other side."

Mr. Garland says that the association has as many finishers in it as ever, regardless of what claims the new union may make. Of this organization he had no knowledge of an official character.

Southern Notes.

The long-continued ice blockade is broken and river navigation has been resumed on a limited scale, much to the relief of coal and ore shippers. While the volume of shipments by river is not great, the check which steamboat competition has on railroad freight rates is a great benefit to shippers, aside from the convenience of reaching many points on the Tennessee River and its tributaries not on the lines of railroads.

So long-continued an experience with ice and cold has not been known in this region for six years. It caused the shutting down of several furnaces for want of supplies, as the ore beds could not be worked. Now, however, the worst is over.

The Railroad Pipe & Foundry Company of Anniston, Ala., is filling an order for 12,000 tons of pipe to go to Providence, R. I. The Jenifer Iron Company of Jenifer, Ala., have just completed a new charcoal iron furnace and have put it successfully into blast. The Alabama Furnace at Florence has changed hands, having been bought by a Nashville, Tenn., company. The price paid is said to have been $69,531.

The furnace at Gadsden, Ala., managed by William Nixon, is running on full time and reports a sufficiency of orders at satisfactory rates. The management expects an early advance in the price of iron. It is authoritatively stated that the Ivens Machine Foundry of Decatur, Ala., will be put in operation about April 1. This is one of the largest industries of the kind in the State.

The Citico Furnace of Chattanooga has elected the following officers for the year 1893: H. S. Chamberlain, president; W. E. Rant, secretary, and these two and D. P. Montague, L. E. Montague, X. Wheeler and A. J. Sanford directors.

An officer of the Tennessee Coal & Iron Company writes: "We have 7 of our 17 furnaces out of blast at this moment, and are spending more money on repairs and in making improvements to them than we have ever spent before at any one time. There never was a time when we could make improvements so cheaply as now, owing to the low price of machinery, and we are largely increasing the capacity of our plant, which, in turn, decreases the cost of production. Of the seven furnaces out of blast, one is finished and drying out, ready to go into blast again next week; other two or three will be finished in about four weeks, but we cannot hasten the work in frosty weather. You may take my assurance for it, all stories to the contrary notwithstanding, that our plant has never at any time been in as superb a condition of efficiency as it is to-day."

It is reported from Middlesborough, Ky., that the Watts Company will have one furnace in blast next week. The delay has been caused by trouble in starting the engine and by breaks in the water mains. The second furnace is to be started in about two weeks.

The Bartow Foundry & Machine Works of Cartersville, Ga., which have been in litigation for a considerable time with the Cartersville Land Company, lost their suit at the session of the Superior Court held last week.

E. L. Moore, proprietor of the Elmore Iron Works, has taken the local management of the Grand Rivers Company of Grand Rivers, Ky. His plant will be moved to Birmingham, Ala., and operated by a stock company in the same name on structural-iron work, blast-furnace work, &c.

The Bristol, Tenn., Foundry & Machine Works were obliged to suspend operations for a week during the cold season just ended. Geo. F. Crouch has resigned the superintendency of this company and W. A. Rideout has been promoted from master mechanic to superintendent.

The Star and Crescent Furnace of New Birmingham, Texas, is to be sold by order of court, May 2, to satisfy claims amounting to about $115,000. The Tassie Bell Furnace of that place reports that it has sold the last iron in its yards. The Alcade Furnace is far behind on orders for water pipe. The prospects are that the three furnaces and two pipe works at New Birmingham will all be at work before June 1.

The Umbria with her repaired shaft arrived out all right, under reduced speed. A piece of the shaft, weighing a ton, will probably be exhibited at Chicago.

Secretary of the Treasury Foster has requested the Secretary of State to instruct United States Consuls in Canada to personally seal cars containing merchandise destined for the United States, and which is transported under the consular seal system.

Imports and Exports.

The report of the Bureau of Statistics for the year 1892 has just been issued, being corrected up to January 27, 1893. Many of the figures entered are of considerable interest, and we extract from it the following data:

Imports.

Among the imports of articles which are free of duty we note imports of needles valued at $360,288 in 1892, as compared with $336,670 in 1891. An increase has also taken place in shot-gun barrels, forged, rough-bored, of which $166,624 was brought in during 1892, against $116,021 in 1891.

The importations of animal ivory were 344,553 pounds last year, as compared with 236,406 pounds in 1891, the values standing $1,157,399 in 1892 and $808,084 in 1891.

The imports of tin during 1892 figured up 46,821,958 pounds, as compared with 41,146,123 pounds in 1891.

In iron and steel the records stand as follows, all quantities having been computed in gross tons:

	Twelve months ending December 31. 1892. Gross tons.	1891. Gross tons.
Iron and steel, and manufactures of:		
Iron ore	806,585	912,856
Pig iron	70,125	67,179
Scrap iron and steel, fit only to be remanufactured	29,228	44,434
Bar iron, rolled or hammered	19,282	18,099
Bars, railway, of iron or steel, or in part of steel	347	253
Hoops or ties for baling purposes, barrel hoops, and hoop or band iron or steel, flared, splayed, or punched	1,011	186
Hoop, band, or scroll iron or steel	725	685
Ingots, blooms, slabs, billets, and bars of steel, and steel in forms, n. e. s	30,586	34,685
Sheet, plate, and taggers iron or steel	26,959	11,882
Tin plates, terne plates and taggers tin	268,223	327,899
Wire rods of iron or steel	42,423	46,938
Wire and wire rope and strand, iron or steel	3,831	4,398
Manufactures of, n. e. s.—		
Anvils	748	813
Chains	544	448
Cutlery	$1,361,000	$1,002,478
Flies, file blanks, rasps and floats	$82,714	$80,963
Firearms	$412,045	$707,719
Machinery	$3,077,971	$3,191,233
All other	$2,970,871	$2,645,579
Total value, including all articles in table	$33,352,965	$41,540,935

The most striking feature in the above table is the increase in sheet, plate, and taggers' iron or steel, which probably represents the growth in the demand for foreign black plates for dipping. It will also be noted that there has been a resumption in the importations of cotton ties and hoops.

As bearing on the metal trade generally we compile the following table of scattered articles:

	Twelve months ending December 31. 1892.	1891.
Brass and manufactures of	$235,788	$277,533
Copper, manufactures of:		
Ore (fine copper contained therein)	517,206	855,213
Pigs, bars, ingots, old, and other unmanufactured	117,551	276,263
Manufactures of	96,627	109,819
Lead, and manufactures of	4,570,238	2,867,653
Metals, metal compositions, and manufactures of, n. e. s.:		
Bronze manufactures	706,406	783,496
All other	5,763,609	6,660,144
Zinc or spelter and manufactures of:		
In blocks or pigs and old	23,397	41,369
Manufactures of	22,709	18,424

In some instances quantities are given—thus, the imports of fine copper in ore declined from 11,138,638 pounds in 1891 to 8,277,063 pounds in 1892, and similarly the imports of foreign ingot copper fell off from 3,154,507 pounds to 1,552,515 pounds.

The imports of spelter were only 410,896 pounds against 814,218 pounds in 1891.

Of platinum, unmanufactured, 5,413 pounds were imported, which were valued at $564,819, while the valuation of 4,822 pounds brought in in 1891 was $621,752, thus indicating that the boom in the price of this precious metal has somewhat subsided.

The imports of plumbago were 11,754 tons in 1892, against 10,618 gross tons in 1891, the values comparing respectively $667,775 and $555,080.

Exports.

Quantities are given, so far as iron and steel exports are concerned, in the following instances:

	Twelve months ending Dec. 31. 1892.	1891.
Iron and Steel and Manufactures of:		
Pig iron, Tons.	15,427	14,946
Band, hoop and scroll iron, Tons.	36	162
Bar iron, Tons.	963	1,340
Car wheels, No.	9,506	14,227
Ingots, bars and rods of steel, Tons.	205	538
Nails and Spikes:		
Cut, Tons.	6,816	4,635
Wire, wrought, horseshoe and other, including tacks, Tons.	954	847
Plates and Sheets:		
Of iron, Tons.	259	344
Of steel, Tons.	302	104
Railroad Bars or Rails:		
Of iron, Tons.	486	160
Of Steel, Tons.	7,496	11,079
Steam Engines and Parts of:		
Fire engines, No.	2	1
Locomotive engines, No.	141	357
Stationary engines, No.	343	338
Boilers and parts of engines, No.	....	....
Wire, Tons.	....	....

It will be observed that there has been a moderate increase in the quantity of cut and wire nails exported and in the amount of wire sent out from this country. We include in the following table the values of all the exports of iron and steel for those articles which exceed $100,000:

	Twelve months ending December 31. 1892.	1891.
Iron and steel, and manufactures of:		
Pig iron	$282,290	$258,060
Car wheels	88,004	116,179
Castings, n. e. s.	540,523	876,121
Cutlery	131,324	141,224
Firearms	724,499	845,702
Locks, hinges and other builders' hardware	2,575,847	2,123,153
Machinery, n. e. s	10,348,675	10,256,949
Nails and spikes:		
Cut	326,110	247,458
Wire, wrought, horseshoe and all other, including tacks	158,825	144,613
Printing presses and parts of	293,261	356,589
Railroad bars or rails:		
Of steel	242,757	360,130
Saws and tools	1,838,133	1,901,194
Scales and balances	359,253	313,652
Sewing machines and parts of	2,848,165	2,955,828
Steam engines and parts of:		
Locomotive engines	1,139,096	3,274,825
Stationary engines	224,951	250,923
Boilers and parts of engines	567,046	734,145
Stoves and ranges and parts of	205,348	252,634
Wire	1,09 ,225	89 ,014
All other manufactures of iron and steel	3,875,114	4,264,420

On copper the quantities involved are the following:

	Twelve months ending Dec. 31. 1892.	1891.
Copper, and manufactures of:		
Ore, Pounds.	113,108,800	86,477,440
Ingots, bars and old, Pounds.	30,515,736	60,279,024

What is classified as ore in the export tables is nearly exclusively matte of different forms. It is estimated that this matte contains about 57 per cent. of copper on the average, on which basis the fine copper contents of the quantities given above are 64,472,016 pounds and 49,292,140 pounds respectively. This would indicate that the total amount of domestic copper exported in 1892 was 143,624,536 pounds fine as compared with 146,756,464 pounds fine in 1891.

The report of the exports of spelter shows a decline in the shipments of zinc ore from 3791 gross tons in 1891 to 919 gross tons in 1892. The exports of pig spelter increased fom 4,294,656 pounds to 12,494,335 pounds. Among the other articles included in the metal list are the following:

	Twelve months ending Dec. 31. 1892.	1891.
Brass, and manufactures of	$438,486	$444,101
Lead, and manufactures of	154,375	173,887
Tin, manufactures of	204,429	250,411
Zinc, and manufactures of:		
Ore	41,186	149,435
Pigs, bars, plates and sheets	669,549	278,182
All other manufactures of	166,794	38,921

Among the miscellaneous articles we may note the following:

	Twelve months ending Dec. 31.	
Carriages and horse cars, and parts of	$1,610,546	$2,033,801
Cars, passenger and freight, for steam railroads	940,566	1,925,913
Gunpowder, and other explosives:		
Gunpowder	119,778	91,171
All other	756,579	919,440
Lamps, chandeliers and all devices and appliances for illuminating purposes	518,240	528,923
Ore, gold and silver bearing	80,807	23,623
Paints and painters' colors	666,649	712,475
Plates ware	316,404	406,611
Quicksilver	133,626	145,502

In some instances the Bureau of Statistics gives full tables showing the destination of the exports. From these we take the following:

ARTICLES, AND COUNTRIES TO WHICH EXPORTED.

	Twelve months ending Dec. 31. 1892.	1891.
Agricultural Implements.		
United Kingdom	$620,982	$558,984
Germany	309,964	221,389
France	227,692	520,284
Other countries in Europe	461,464	472,174
British North American Possessions	98,222	180,419
Mexico	97,700	100,271
Central American States and British Honduras	11,511	13,639
Cuba	109,882	65,057
Puerto Rico	2,945	3,792
Santo Domingo	1,243	476
Other West Indies and Bermuda	8,413	11,294
Argentine Republic	1,381,978	327,585
Brazil	32,166	47,408
Other countries in South America	266,438	144,428
British Possessions in Australasia	276,943	351,997
Other countries in Asia and Oceanica	31,363	36,327
Africa	271,778	247,050
Other countries	.....	.....
Total	$4,210,684	$3,310,183
Copper.	1892.	1891.
Ore:		
United Kingdom	$6,254,901	$6,119,366
Germany	204,224	399,814
Other countries in Europe	20,633	46,440
Total	$6,479,758	$6,565,620
Ingots:		
United Kingdom	$345,181	$2,070,819
Germany	691,978	811,608
France	1,116,693	3,360,453
Other countries in Europe	1,263,740	2,577,948
Other countries	20,546	23,476
Total	$3,438,048	$8,844,304
Iron and Steel, Manufactures of.		
Builders' hardware, and saws and tools:	1892.	1891.
United Kingdom	$576,641	$647,669
Germany	245,432	235,631
France	58,595	53,834
Other countries in Europe	139,751	123,180
British North American Possessions	584,115	39 ,029
Mexico	401,132	339,705
Central American States and British Honduras	115,258	154,481
Cuba	534,827	378,762
Puerto Rico	22,406	24,859
Santo Domingo	18,378	11,190
Other West Indies and Bermuda	81,371	80,123
Argentine Republic	181,334	60,798
Brazil	235,822	278,327
Colombia	111,334	107,436
Other countries in South America	330,046	213,533
British Possessions in Australasia	595,953	717,20

Other countries in Asia and Oceanica	47,868	84,708
Africa	129,387	107,696
Other countries	4,930	5,226
Total	$4,413,980	$4,024,347
Steam engines, and parts of, and machinery not elsewhere specified:	1892.	1891.
United Kingdom	$2,218,600	$2,045,061
Germany	416,697	680,894
France	278,668	340,474
Other countries in Europe	437,939	645,128
British North American Possessions	829,458	938,218
Mexico	1,587,418	1,455,118
Central American States and British Honduras	311,617	385,284
Cuba	3,535,624	2,617,406
Puerto Rico	29,450	19,779
Santo Domingo	237,668	164,72
Other west Indies and Bermuda	182,765	146,195
Argentine Republic	127,397	61,143
Brazil	67,300	2,318,229
Colombia	160,011	130,195
Other countries in South America	522,611	466,836
British Possessions in Australasia	361,438	1,358,944
Other countries in Asia and Oceanica	271,631	544,844
Africa	97,249	205,309
Other countries	1,052	691
Total	$12,279,593	$14,52 ,472

The total amount of imports of merchandise in 1892 was $876,186,671, as compared with $828 320,943 in 1891, while the exports stood $938,420,411 in 1892, as compared with $970,509,646 in 1891. The imports of gold were $17,450,946, while the imports of silver were $21,726,252, a total of imports of the precious metals of $39,177 198. The exports of gold were $70,404,487, while the exports of silver were $20,358,836, a total of $90,763,323. The excess of exports of merchandise of gold and silver in 1892 was $135,530,097, as compared with a like apparent adverse balance of trade of $185,805,303 in 1891.

Director-General Davis of the Columbian Exposition has sent to the Council of Administration a report dealing with quarantine against cholera, in which the following paragraph appears: "To give the general public confidence in the efficacy of the quarantine regulations at the seaboard it is absolutely necessary that the United States Government should assume the control and direction of the service and become responsible for the enforcement not alone of sanitary inspection and fumigations on the arrival of infected or suspected vessels, but also of the regulations governing the acceptance of passengers from infected districts by the steamship companies plying between our own and European ports. The United States Government can unquestionably control the situation if it undertakes to do so, and the public announcement that the matter was in the hands of the national authorities, and that they had assumed the responsibility, would at once inspire confidence and prevent any general apprehension of an epidemic. With more particular reference to the local aspect of the question, I say without hesitation that I do not anticipate that the cholera infection will reach Chicago in any serious form; nevertheless, I believe it to be the duty of the municipal authorities to make this city conspicuously clean and keep it so." The report recommends that a special sanitary corps be organized at Chicago, under the Medical Director, consisting of possibly 20 or 30 inspectors, whose duty it will be to make a minute inspection of the entire exhibition daily, or twice a day, should the weather require it, under such rules as the Medical Director may prescribe.

Jack Clifford, on trial in the criminal courts in Pittsburgh for the past week on the charge of murder, in connection with the Homestead riots of July 6, was acquitted last night by the jury. The case of Hugh O'Donnell, known as the Homestead labor leader, on the same charge, will come up in Pittsburgh on next Monday.

Stationary Pig Iron Production.

The net result of the changes which have occurred in the status of the furnace plants throughout the country shows that practically production has remained stationary. Consumption has kept up very well indeed with output, considering the fact that January is usually regarded as an unfavorable month in this respect. To that extent the statistical position is decidedly favorable.

On February 1 the active furnace plant, grouped according to fuel used, possessed the following weekly capacity:

	Furnaces.	Tons per week.
Anthracite	74	32,871
Coke	139	129,396
Charcoal	38	9,184
Total February 1	251	171,451
Total January 1	246	173,368
Changes	+ 5	— 1,917

The weekly product of all the furnaces on February 1 compared as follows with that of preceding periods:

	Furnaces in blast.	Capacity per week. Gross tons.
February 1, 1893	251	171,451
January 1,	246	173,068
December 1, 1892	246	176,271
November 1	244	171,082
October 1	236	158,027
September 1	236	151,648
August 1	238	155,136
July 1	254	169,151
June 1	269	173,674
May 1	268	177,886
April 1	280	185,462
March 1	305	193,902
February 1	308	187,383
January 1	305	188,082
December 1, 1891	298	188,135
November 1	304	187,685
October 1	306	181,615
September 1	299	170,846
August 1	296	169,576
July 1	293	171,115
June 1	258	146,782
May 1	227	115,590
April 1	228	113,483
March 1	257	134,536
February 1	294	146,050
January 1	302	167,599
December 1, 1890	340	183,846
November 1	342	177,958
October 1	336	179,263
September 1	323	171,776
August 1	324	164,798
July 1	336	175,727
June 1	345	180,791
May 1	344	180,099
April 1	344	178,474
March 1	343	180,991
February 1	334	173,651
January 1	333	174,038

The following coke furnace capacity was running on the 1st inst.:

Coke Furnaces, February 1.

Location of furnaces.	Total number of stacks.	Number in blast.	Capacity per week.	Number out of blast.	Capacity per week.
New York	7	3	3,485	4	2,500
Pennsylvania:					
Pittsburgh district	25	21	34,060	4	7,278
Spiegel	1	1	751	0	0
Shenango Valley	18	8	8,511	10	7,220
Juniata and Conemaugh Valley	18	9	6,616	10	3,120
Youghiogheny Val	3	0	0	3	2,215
Miscellaneous	4	1	673	3	1,078
Maryland	5	2	2,958	3	3,190
West Virginia	1	0	0	1	250
Wheeling District	9	6	6,212	3	2,738
Ohio:					
Mahoning Valley	15	9	9,761	6	3,940
Central & Northern	11	9	7,285	2	1,300
Hocking Valley	12	1	749	11	2,950
Hanging Rock	15	8	1,340	7	1,926
Indiana	2	1	226	1	200
Illinois	19	8	12,900	11	14,380
Wisconsin	4	4	3,450	0	0
Minnesota	1	1	700	0	0
Missouri	6	1	813	5	2,740
Colorado	3	2	1,717	1	0
The South:					
Virginia	20	12	6,202	8	4,180
Kentucky	6	4	2,032	1	1,100
Alabama	37	22	15,872	15	8,913
Tennessee	13	5	3,139	8	3,730
Georgia	2	0	0	2	1,045
North Carolina	2	1	56	1	500
Totals	259	139	129,396	120	80,200

As compared with previous months, the active coke furnaces make the following showing:

	Furnaces in blast.	Capacity per week.
February 1, 1893	139	129 396
January 1	138	171,731
December 1, 1892	136	133,160
November 1	133	130,673
October 1	128	118,895
September	128	114,538
August 1	131	117,984
July 1	140	127,433
June 1	145	128,852
May 1	147	132,313
April 1	152	138,116
March 1	163	143,490
February 1	167	138,268
January 1	163	138,611
December 1, 1891	162	142,747
November 1	162	142,152
October 1	163	135,997
September 1	161	127,664
August 1	154	125,736
July 1	150	122,422
June 1	124	100,165
May 1	98	70,529
April 1	96	67,570
March 1	113	85,093
February 1	125	94,473
January 1	143	112,153

The new Buffalo Furnace did not start in time to appear among the active furnaces this month. In the Pittsburgh district two of the Edgar Thomson furnaces are out. They will be practically rebuilt, so as to be equal in size to furnaces H and I. In the Wheeling district Wheeling Furnace is now out of blast. The status of the plants in Ohio is practically the same as it was at the opening of the year. In the Northwest, Duluth has started.

In the South the only notable change is that Citico, in Tennessee, has stopped, and that one of the Watts furnaces in Kentucky has blown in.

The status of the anthracite furnaces was as follows on the 1st inst:

Anthracite Furnaces, February 1.

Location of furnaces.	Total number of stacks.	Number in blast.	Capacity per week.	Number out of blast.	Capacity per week.
New York	19	4	2,389	15	5,550
New Jersey	12	3	1,475	9	2,840
Spiegel	3	3	246	0	0
Pennsylvania:					
Lehigh Valley	46	26	10,283	20	7,430
Spiegel	1	1	65	0	0
Schuylkill Valley	30	13	6,328	17	7,020
U. Susquehanna Valley	16	8	2,649	8	1,305
L. Susquehanna Valley	17	8	4,828	9	2,080
Lebanon Valley	15	8	4,608	7	2,680
Totals	159	74	32,871	85	28,914

For a number of months past our records of active anthracite furnaces show the following:

	Furnaces in blast.	Capacity per week.
February 1, 1893	74	32,871
January 1	70	32,772
December 1, 1892	69	33,602
November 1	69	30,809
October 1	69	29,958
September 1	66	27,453
August 1	66	28,821
July 1	72	31,754
June 1	76	33,200
May 1	81	35,473
April 1	84	36,487
March 1	89	38,678
February 1	92	38,124
January 1	94	38,307
December 1, 1891	85	34,905
November 1	87	33,802
October 1	85	32,459
September 1	82	31,214
August 1	88	32,860
July 1	92	37,892
June 1	91	36,561
May 1	90	35,331
April 1	91	36,598
March 1	93	38,543
February 1	95	40,212
January 1	101	43,166

New Jersey records the stoppage of the Scaucus Furnace and the resumption of Wharton on January 12. In the Schuylkill Valley, a second Brooke furnace at Birdsboro, is now running, while the Lehigh Valley had added the Macungie to its active plants. Paxton, in the lower Susquehanna Valley, is now running.

The capacity of the charcoal furnaces was as follows:

Charcoal Furnaces, February 1.

Location of furnaces.	Total number of stacks.	Number in blast.	Capacity per week.	Number out of blast.	Capacity per week.
New England	13	4	320	9	640
New York	5	0	0	5	583
Pennsylvania	13	4	210	9	725
Maryland	7	1	124	6	570
Virginia	13	1	100	12	727
Ohio	9	2	224	7	825
Kentucky	3	0	0	3	935
Tennessee	7	4	900	3	350
Georgia	3	1	245	2	329
Alabama	13	5	1,468	8	1,605
Michigan	20	10	3,382	10	2,580
Missouri	2	1	345	1	328
Wisconsin	4	3	1,432	1	200
Texas	4	2	374	2	410
Washington	1	0	0	1	170
Oregon	1	0	0	1	225
Totals	118	38	9,184	80	11,193

As compared with previous months, the record of active charcoal furnaces stands as follows:

	Furnaces in blast.	Capacity per week.
February 1, 1893	38	9,184
January 1	38	8,865
December 1, 1892	41	9,509
November 1	42	9,540
October 1	39	9,174
September 1	42	9,657
August 1	41	8,331
July 1	42	9,964
June 1	48	11,613
May 1	43	10,100
April 1	44	10,859
March 1	50	11,734
February 1	49	10,991
January 1	48	11,194
December 1, 1891	52	11,033
November 1	55	11,731
October 1	58	13,159
September 1	56	11,968
August 1	54	10,980
July 1	50	10,891
June 1	44	10,056
May 1	39	9,730
April 1	41	9,295
March 1	51	10,890
February 1	56	11,365
January 1	59	12,280

Among the charcoal furnaces which have been blown out or banked are Chatham and Copake, in New York, and Jefferson, in Ohio. There were blown in during January Jefferson and Old Alcalde, in Texas, and Fond du Lac, in Wisconsin. Mt. Vernon in Ohio was to start February 6.

Stocks.

The position of stocks, sold and unsold, as reported to us February 1, was as follows, the same furnaces being represented as in former months:

Stocks:	Nov. 1. Tons.	Dec. 1. Tons.	Jan. 1. Tons.	Feb. 1. Tons.
Anthracite pig	141,446	138,863	135,851	140,214
Coke pig	450,238	411,686	422,481	414,817
Charcoal pig	192,548	189,616	191,574	188,094
Totals	784,232	740,165	749,906	743,125

It is apparent from the above that the general situation is unchanged.

Dow, Jones Company say in regard to the Illinois Steel Company's annual meeting: The annual report of the Illinois Steel Company shows an undivided surplus of $311,892. To provide funds for additional mills and a working capital, $7,000,000 non convertible debenture bonds were authorized, and the scrip dividend just declared may be applied in payment therefor up to 34.936 per cent., the remaining 64 per cent. must be paid for in cash. The old directors and officers were re-elected.

The sudden and unexpected shutting down of the Wallis Iron Works of Jersey City, N. J., has gived rise to rumors of failure. It is stated that an attachment for $23,000 has been entered in favor of Edward Burns of Brooklyn, on an assigned claim of the First National Bank of Jersey City on a demand note of the company to the order of Hamilton Wallis, dated January 24, 1893, for $30,000, on which $7000 has been paid. The company have refused to make a statement, but it is understood that an extension has been asked for and that hope is entertained that resumption will be possible. The works were burned some time ago, but were rebuilt and the insurance was supposed to have covered the loss. The company are an old one and did a large business in bridge and structural material.

MANUFACTURING.

Iron and Steel.

Jefferson Furnace, charcoal, at Oak Hill, Ohio, blew out on January 30.

Boiling Springs Furnace, Boiling Springs, Pa., resumed operations on February 6.

The works of the Cohoes Tube Works, Aird, Don & Curtis, successors to Curtis & Co. of Cohoes, N. Y., were totally destroyed by fire on October 29. On February 1 it was possible to make the announcement that the new mill was completed and that on February 6 the works would be again started. The new buildings are of brick and iron throughout.

The new Buffalo Furnace of the Union Iron Company, at Buffalo, N. Y., will light up in a few days. Steam has been turned on and the engines, condensers, pumps, &c., tested and found to work satisfactorily. The output of the stack is estimated at 2100 tons per week.

The Duluth blast furnace was blown in on January 25 with the temperature about 20 degrees below zero. This is considered rather cold weather even in the Northwest, but Manager Richards was not dismayed and had the gratification of reporting to the officers of the company in Chicago that everything had moved off well. He received a letter at the same time from a friend who was also about to blow in a furnace in one of the Southern States that owing to the severity of the weather active operations in that direction had been deferred until the temperature was more favorable. The Duluth Furnace is running on a charge of 75 per cent. Mesabi ore and 25 per cent. hard ore. The trial which is thus being made of ore from the new range will soon enable furnacemen to judge its practical value.

Thomas McDonald, formerly superintendent of the converting department of the Duquesne Steel Works of the Carnegie Steel Company, Limited, at Duquesne, Pa., has entered upon his duties as superintendent of the Bessemer plant now building by the Ohio Steel Company, at Youngstown, Ohio. W. C. Lowry, formerly connected with the Homestead Steel Works, at Homestead, Pa., has also entered upon his duties as master mechanic of the new concern. In a recent statement made by Henry Wick, a stockholder and official of the Ohio Steel Company, he stated that the capacity of the plant will range from 1000 to 1400 tons of Bessemer steel per day, and will require the product of four blast furnaces to supply it with Bessemer pig. The plant embraces a tract of 50 acres, and is underlaid with rock furnishing a solid foundation for the engines and machinery. When in operation the plant will employ from 800 to 1000 men. Nearly all the contracts have been awarded and work is being pushed on the construction of the plant as fast as possible. At a recent meeting of the board of directors the position of president, made vacant by the death of H. O. Bonnell, was filled by the election of J. G. Butler, Jr. Jas. L. Botsford was elected on the board of directors vice Henry O. Bonnell, deceased.

At a meeting of the board of directors of the Brown-Bonnell Iron Company, held in Youngstown, Ohio, last week, E. P. Williams of Cleveland was elected to the position of assistant secretary, and will assume the duties of his office some time during this week.

The W. Dewees Wood Company of the McKeesport Iron Works at McKeesport, Pa., and sole manufacturers in this country of patent planished sheet iron, have recently purchased considerable ground adjacent to their works which will probably be utilized for extending the plant.

Announcement is made that the plant of the Pomeroy Iron Company, owned and operated by the Union Iron & Steel Company, at Youngstown, Ohio, will be removed to another location. The citizens of Ashland, Ky., are reported as having offered a site, together with a bonus to secure the plant, and it is possible that this offer will be accepted.

Last week executions in favor of Sarah O McKnight amounting to $124,434 were issued against Wharton McKnight, proprietor of the Anchor Foundry & Machine Works, at Pittsburgh. The execution is on several notes drawn to the order of Mrs. McKnight as trustee for the Bank of Pittsburgh, $49,650; to the Diamond National Bank, $13,200; to the Merchants' and Manufacturers' National Bank, $5000; to the Odd Fellows' Savings Bank, $2500; the People's National Bank, $5250; to Eliza T. McKnight, $12,555, and the remainder to Sarah O McKnight. The embarrassment of Mr. McKnight caused considerable surprise in business circles in Pittsburgh, as it was not expected. The reason advanced for his embarrassment is inability to make collections and the demands of several creditors that their claims be paid at once. The plant of the firm is in possession of the sheriff, and is advertised to be sold at sheriff's sale in Pittsburgh on Friday, the 10th inst.

At a meeting of the board of directors of the Belfont Iron Works Company of Ironton, Ohio, held last week, a dividend of 2½ per cent. out of the earnings of the last six months of 1892 was declared. This makes a total dividend of 5 per cent. declared by the above concern during the past year.

It is reported that the blast furnace of the Bellefonte Furnace Company of Bellefonte, Pa., which has been idle for a long time, will be put in operation at an early date.

Last week the Carpenter Steel Company of Reading, Pa., made shipments consisting of 300 8-inch A. P. projectiles and 100 10-inch A. P. projectiles to the U. S. Navy Yard, at Washington, D. C. The books of this concern show that 228 4 inch, 1282 6-inch, 761 8-inch and 175 10-inch projectiles were accepted during the past year. Of all these the company have not had a single lot rejected, and have received reports from the Secretary of the Navy that the shells furnished are not only eminently satisfactory, but in comparison with shell trials made in Europe, the Carpenter shells stand the severest tests. The total value of these shells is $205,711.

Regarding the structural iron business for the coming year, a Mahoning Valley manufacturer who is particularly interested in this branch of the trade said yesterday: "Everything now points in the direction of a prosperous year. In every direction plans are being prepared for the erection of large buildings, and to make them fire proof and add to their solidity iron enters largely into their construction. Aside from capitalists who are erecting buildings for investments, the Government is getting to be a large contractor in this direction, providing public buildings for the important cities through the country. Unless something occurs that we do not look for, the year will be a prosperous one for employer and employee."

Mattie Furnace, owned by the Girard Iron Company, at Girard, Ohio, is doing excellent work since she was blown in. She is making 200 tons of pig iron daily.

Wm. Tod & Co., Youngstown, have this week an order from the Cleveland Rolling Mill Company for a pair of 10-ton converters, with supporting frames and operating machinery, for their new Bessemer department. The contract for the plate iron work is given to W. B. Pollock & Co. of Youngstown.

Work on the new buildings of the Brown-Bonnell Iron Company is progressing slowly. The frames have been up for some time, but the balance of the work has been greatly retarded by the severely cold weather. The mill has been on full in all departments with the exception of the nail mill.

The Sharon Steel Works, at Sharon, Pa., are making several improvements in their machinery. This is one of the most complete small steel plants in the valleys.

The Thomas Furnace of Niles, Ohio, is doing remarkably good work since the new Massick & Crook hot blast was erected, the daily output having increased 25 per cent. and the fuel reduced 20 per cent.

The W. Dewees Wood Company, proprietors of the McKeesport Iron Works, at McKeesport, Pa., have recently put in operation a system by which prizes are given to the workmen on the hammer turning out the largest amount and best quality of iron in six months. Recently a cash prize of $1500 was thus divided.

Machinery.

The capital stock of the National Machine Company of Hartford, Conn., has been increased from $60,000 to $100,000.

On the 23d inst. application for an intended corporation to be known as the Verona Tool Works will be made. Jacob W. Paul, Henry S. Paul, Harry W. Armstrong, Jennie Lee Paul and Mary F. Armstrong are the incorporators. This new concern will succeed the

present firm of Metcalf, Paul & Co., tool manufacturers, with offices at Pittsburgh and works at Verona, Pa.

A meeting of the new James P. Witherow Company of New Castle, Pa., was held last week, together with a committee of the creditors. It was found that some of the creditors who signed the agreement had neglected to make their assignments, which would cause a few days' delay in settling the affairs of the old company. Mr. Witherow expects to have the large plant at New Castle in operation next week.

The property of the Stokes & Parrish Machine Company, at Philadelphia, has been purchased by Bement, Miles & Co. of that city for $35,000.

The Sheridan Iron Works of Champlain, N. Y., are doing considerable in the way of electro-plating, and have recently put in a complete nickel-plating and polishing outfit made by the Zucker & Levett Chemical Company of New York.

The Berlin Iron Bridge Company of East Berlin, Conn., will build the new machine shop for S. F. Hodge & Co., Detroit, Mich. The building will be 150 feet long and of the modern type, the central portion being 40 feet in width, controlled by a traveling crane of 20 tons capacity, with a wing on each side 22 feet in width, the wings being two stories high.

The J. T. Shaeffer Mfg. Company of Rochester, N. Y., have elected the following directors: J. D. Chamberlain, T. F Stark, William M Bennett, J. T. Shaeffer and Frederick Cook.

The Humphrey Turbine & Machine Company, manufacturers of turbine water wheels and clay-working machinery, recently removed their plant from Cuyahoga Falls, Ohio, to Akron, Ohio. This firm have purchased in Akron an entire new plant, including shops, ground and machinery, and are now building a foundry and in a short time will have facilities for turning out more than double their former output. As stated above, this firm will manufacture turbine wheels, and will also build all kinds of clay-working machinery, such as clay mills, sewer pipe, presses, dies and brick machines, and will also conduct a general machine-shop business. The capital stock of the firm is $100,000. A meeting of the directors for the purpose of electing officers for the ensuing year will be held at Akron during the present week.

The Automatic Boiler Feeder Company, of Marion, Ohio, manufacturers of the Austin automatic boiler feeder and cleanser, have purchased a portion of the Huber works in Marion. Their buildings cover about 132 x 300 feet, all of brick and stone, two and three stories high. The concern have organized with a capital stock of $50,000 for the purpose of manufacturing the Austin automatic boiler feeder.

The Anchor Foundry & Machine Company, Pittsburgh, have failed, with liabilities placed at $124,000 and assets of $100,000.

The Totten & Hogg Iron and Steel Foundry Company of Pittsburgh, manufacturers of rolling mill machinery of all descriptions, are remodeling their entire plant and have just placed a new engine and boiler in their foundry department, a new engine in their machine shop, new engines on all their cranes, new roll lathes in the roll department, and are replacing the machinery in their machine shops with new tools of the latest design. Some of these tools have already been put in position, and contracts have been let to Eastern firms for other machines. In addition to their present extended list of manufactures this concern are fitting up their plant with a view of engaging in the manufacture of rolling mill engines in addition to rolling mill machinery. They report plenty of orders on hand and their plant is being operated night and day in all departments.

William B. Turner, formerly superintendent of the Edison General Electric Company of Schenectady, N. Y., has decided to locate his large new manufactory at Bellevue, in the town of Rotterdam, near Schenectady. After an extensive tour through New York, Pennsylvania and Connecticut, Mr. Turner decided to locate at home. When he severed his connection with the Edison Company he purchased from that concern all of its pulley, hanger and coupling patents, together with the good will of the business, which has been profitably carried on by the company in that line for a number of years. Ten acres have been secured for the plant. The new factory will be started in the spring. Mr. Turner is largely interested in the Schenectady Railway, Illuminating and Development companies. After his purchase from the Edison Company, Mr. Turner sold to C. F. McMurray of Troy all of the stock of hangers, shaftings and pulleys, finished and unfinished, with the exception of the Peter Weber clutch, the Weber adjustable reamer and the compression couplings. For various reasons he did not care to compete with Mr. Murray in the manufacture of these appliances. It is estimated that 45 carloads of machinery, patterns, tools and finished and uncompleted stock have been forwarded to the Troy plant. Orders subsequent to December 28 are being made up at the McMurray plant on Starbuck's Island, which will continue to manufacture pulleys, shaftings and hangers, while the new plant to be built by Mr. Turner will turn out special appliances and machinery of various kinds.

The Border City Mfg. Company, located east of Geneva, N. Y., the chief business of which is the manufacture of pumps of the Bickford patent, have declared an annual dividend of 7 per cent. It is said that the actual earnings exceeded 14 per cent. The company have been organized a little over three years. This is their third dividend, two previous ones of 6 per cent. having been paid. The inventory shows assets amounting to $17,239, and a surplus of $4358. The directors elected are: O. J. C. Rose, E. N. Squires and W. A. Bickford.

The Straight Line Meter Company of Syracuse, N. Y., have been incorporated with a capital stock of $40,000, shares $100 each, to manufacture a patent meter. William D. Hawley, with Silas J. Hogan, is the inventor of the device, which is intended for water, electricity and kindred uses. It is also proposed to manufacture specialties of wood, metal and of both combined. The directors are: Charles M. Warner, James M. Ellis, Duncan W. Peck, William D. Hawley and Henry C. Allen.

Miscellaneous.

W. A. Royce of Newburg, N. Y., is placing on the market a patent agate enameled drive well point. The gauze strainer and perforated plate are held away from the enameled surface of the perforated pipe by a spiral coil of wire wound around the pipe. A circular states that a 1¼-inch pipe, 24 inches long (exclusive of the cone to pierce the earth) yields 5½ gallons of water per minute to a steam-driven pump, equal to 8000 gallons every 24 hours.

The Novelty Mfg. Company of Jackson, Mich., are manufacturing a very extensive line of gas stoves. They are also equipped to do electro-plating on a very large scale, having recently installed one of the Zucker & Levett Chemical Company's, New York, plants for this class of work.

S. Obermayer Company, Cincinnati, Ohio, foundry facing and supply manufacturers, report the volume of business as being excellent with them. Among late orders and inquries received is one from Manchester, England, and one of the islands in the Indian Ocean. The company contemplate establishing a branch in prominent city east of Cincinnati at an early date.

The Hitchcock Lamp Company of Watertown, N. Y., have elected the following officers: President, J. B. Taylor; vice-president and treasurer, Robert Hitchcock; secretary, George B. Massey; directors, J. B. Taylor, George B. Massey, J. W. Moak, Mrs. J. W. Moak and Robert Hitchcock.

C. J. Jonason, the Swedish inventor whose new windmill was recently described in *The Iron Age*, and a company to manufacture which has been organized and is building a plant at Blasdell, N. Y., died recently at Buffalo. His death was caused by intestinal trouble and a severe cold. Most of his ideas in regard to the improved windmill were placed on paper previous to his death. Lucien Jackson, an able mechanical engineer, has assumed charge of the construction of the factory buildings at Blasdell.

Randolph & Clowes of Waterbury, Conn., recently shipped a lot of seamless drawn copper tubes 38 feet long, 3-16 inch thick, 2 inches inside diameter and weighing 152 pounds each.

The strike at the Brooks Locomotive Works, Dunkirk, N. Y., is practically ended, nearly 1000 men having returned to work.

The Portsmouth Wheel Works, at Portsmouth, Ohio, have been burned to the ground. The loss is about $90,000 and the insurance $70,000. The plant will be rebuilt as soon as possible.

The United States Steam and Hot-Water Boiler Makers' Association, formed last August, disbanded at a recent meeting held in Buffalo. Some of the most prominent steam and hot-water boiler manufacturers were members.

The Electric Gas Lighting Company of Boston, Mass., have removed their factory to the seven-story building, 240 Dover street, where they occupy about 6,000 feet of floor space. New machinery has been added and the capacity of the works doubled. This concern manufactures electric gas lighting apparatus and domestic electrical goods in general, mostly patented specialties. The office will remain at 173 Devonshire street.

The Youngstown Car Works have received an order for a lot of L. S. & M. S. side-dump cars and are now at work on them.

The car shops of the Pittsburgh & Lake Erie Railroad Company, at Chartiers, Pa., have been burned, together with a number of freight and passenger cars. The loss is $65,000.

The former De-oxidized Metal Company of Bridgeport, Conn., have been reorganized and incorporated under the laws of New Jersey as the Bridgeport De-oxidized Bronze & Metal Company, with a capital stock of $75,000. The old company erected a costly plant, which has since passed into other hands through foreclosure proceedings. The new concern will rent this plant from its present owners.

The Edison General Electric Company, Schenectady, N. Y., contemplate the erection of two more new buildings in addition to their already extensive plant. The structures will be 200 feet long.

The Climax Road Machine Company have been incorporated to do business at Marathon, N. Y. They will manufacture and sell road machines and graders, stone crushers and plows. The capital stock is $250,000 and the directors are: Andrew S. Manning of Auburn, Oscar F. Pinckney, Mrs. Nancy M. Clark, Walter A. Cook, Jr., and Edgar L. Adams of Marathon.

Winslow Brothers' architectural iron works on Carroll avenue, between Ada and Elizabeth streets, Chicago, barely escaped destruction by fire on the 27th ult. A watchman discovered flames in the boiler room and blacksmith shop of the old foundry building at the rear of the new works, and before the fire apparatus arrived the whole structure was wrapped in flames that swept through the old building as if it was a tinder box and in 15 minutes had burned through the roof. A fire wall between the old foundry building and the new prevented the spread of the flames to a considerable extent. Very little damage was done by the fire in the boiler room, but everything in the plaster of paris molding and pattern room on the second floor was destroyed. The total loss will not exceed $20,000, and a full line of insurance is carried. The Winslow Brothers' establishment is one of the most extensive concerns of the kind in the world, manufacturing a great deal of artistic architectural work. Over 700 persons are employed.

PERSONAL.

E. W. Bliss, the well known manufacturer of drawing presses, has gone to Europe.

John Thomas and Samuel Thomas of Catasauqua, Pa., have returned from a trip to the Sigua mines, Cuba.

J. G. Schulz, master mechanic at the Homestead Steel Works, has resigned to enter the employ of the National Tube Works Company, who are building a Bessemer plant at McKeesport. Harry Davis, formerly assistant master mechanic at Homestead Steel Works, has been promoted to the position of master mechanic made vacant by the resignation of Mr. Schulz.

Chas. Kellogg, president of the Elmira, N. Y., Bridge Works, has resigned, and has disposed of his interest in the plant.

Frank D. Cuollar, formerly of Syracuse, N. Y., has assumed the management of the machinists' supply department of E. A. Kinsey & Co., at Cincinnati, Ohio.

I. W. Bollinger, one of the best known salesmen in the Western iron and steel trade, and who for the past six years has been connected with Nelson B. Williams of Chicago, has entered the employ of F. S. Atherton, general Western sales agent for the Union Drawn Steel Company and the Hartman Mfg. Company, 508 State street, Chicago. Mr. Bollinger will immediately make a trip by way of Texas to the Pacific coast, visiting every large city in Mr. Atherton's territory.

A. R. Whitney, of the well-known New York firm of merchants, leaves for a month's recreation in Florida early next week.

TRADE REPORT.

The Pittsburgh and its allied districts, Wheeling, the Mahoning and the Shenango Valleys, which have been the storm centers in so many branches for so long a time, send their first intimations of encouragement. Apparently it is one powerful influence which has taken the initiative, Bessemer Pig being the first to feel its effect. There have been heavy sales of the crude metal on an advancing market which has carried values from about $13.10, the lowest point reached, to $13.40 @ $13.50, which is now the quotation.

This has already had a bracing effect on the Soft Steel market, in which some of the extremely low quotations have been withdrawn. A distinctly firmer feeling is the result. In other sections of the country in which the Pittsburgh and Wheeling Soft Steel makers have been allowed to have their own way with the very low prices, local makers may soon be able to realize the minimum figures for which they have been holding out for some time.

Probably all that can be said now is that the sinking tide has been stayed and that there is a much better chance for a turn than there has been

Our usual monthly furnace returns show a slight decrease in the capacity and, somewhat unexpectedly, very little change in stocks, which it was feared would indicate a considerable increase. That, certainly, is an encouraging feature.

Foundry Irons are still unsettled in the leading markets, the weakening of the Southern producers having extended to a large number. There has been a very active week in Chicago, where local and Northern furnaces continue in full control of the markets. From other quarters, too, come indications of vigorous measures to crowd Southern makes back.

The sales of Rails reported by our Philadelphia correspondent show that there has been some activity, Western Pennsylvania mills taking some good orders. Among the sales of the Eastern mills, one is of special interest. It covers 4000 tons for Cuba, probably the largest export order yet taken by the tidewater mill.

In Foreign Material the most interesting transaction is the purchase of about 5000 tons of Soft Steel Billets for the export Wire trade, under the drawback arrangement, by an Eastern Pennsylvania mill.

The final official announcement of the distribution by the Cramps of the great order for Plates for the American Line steamers has not yet been made. Our Philadelphia correspondent, however, indicates to whom the bulk of the work will go. Pittsburgh, apparently, again carries off the lion's share, while two Eastern mills take the 4000 tons of Shapes. A fair amount of contracting has been done, besides, in Beams and Structural material for architectural purposes.

Still, while the majority of the lines in Finished Iron and Steel are fairly steady, soft spots continue to make their appearance in many directions. Hoops have been offered in New York down to 1.75¢, delivered, and Steel Shafting is still very much demoralized, Western makers offering at 1.50¢ at mill, with some Eastern concerns following them closely on the basis of the delivered price.

In the Metal markets Copper is quiet at unchanged prices, while uncertainty as to what is to be done with the Tin duty affects that metal. Lead is dragging along quietly, while Spelter is rejoicing in its first intimation that values do not necessarily decline endlessly. A considerable business has been done in Tin Plates for the spring trade and prices are hardening.

Philadelphia.

Office of *The Iron Age*, 220 South Fourth St., PHILADELPHIA, Pa., February 7, 1893.

The market has been very unsettled during the past week or ten days, and while the volume of business has been larger, it is singular that prices have developed weakness. Under such conditions the trade are considerably mystified, and are at a loss to know what to expect next. The placing of orders for upward of 35,000 tons of Plates and Shapes by one company, 75,000 tons Rails, in three or four orders, and of more than 50,000 tons in another, within a week, to say nothing of a large general business, ought to impart a better feeling, but it has not done so yet, whatever it may do later on. Prices all the way through the list barely hold their own; in some instances they show a shrinkage, but nevertheless orders in hand are increasing, and to that extent the situation shows improvement.

Pig Iron.—Reports in this department are hard to understand. Some claim to meet with a good demand at full prices, others say that business has been taken from them at prices and on terms which show a most unusual condition of affairs. But as regards regular standard brands, business is done at the old figures, and when there is any serious shading it is either for new brands, forced sales or off-grade Iron, although unfortunately there has been a good deal of that kind of business within the past two or three weeks. Still it may not amount to anything as affecting the general market, but in the meantime it chills enthusiasm and confirms buyers in their old hand-to-mouth policy. As a rule furnaces appear to be pretty well sold up, but there has evidently been some unloading somewhere—either from first or second hands. It may be all the better for the market in the long run. In former times a cleaning up of odds and ends was generally the signal for a movement along the entire line, and while no one seems to look for any very decided improvement now, it is just possible that the outcome may be in the nature of another surprise. But, as already stated, there is nothing to indicate any great confidence among either buyers or sellers, what strength there is being due to the fact that prices are little, if anything, beyond first cost, and solvent concerns are determined to either maintain prices or stop production. Under such conditions as we have endeavored to define, there has been a considerable amount of Iron changing hands; standard brands at quoted rates, others at such figures as circumstances would permit; sometimes 25¢ off; at other times, and for spot cash, still heavier reductions have been submitted to, but so far as we can find, it has had no particular influence on the regular line of trade. General quotations for Philadelphia and near-by deliveries are about as follows, with the usual concessions on Southern Irons when delivered at Harrisburg, Baltimore and intermediate points:

American Scotch, No. 1X	$17.00	@	$17.25
American Scotch, No. 2X	16.00	@	16.25
Standard Penna. (Lake Ore), No. 1x	14.75	@	15.25
Standard Penna. (Lake Ore), No. 2x	14.25	@	14.50
Standard Virginia, No. 1x	14.75	@	15.00
Standard Virginia, No. 2x	14.00	@	14.25
Virginia and Southern, No. 1x. Soft	14.00	@	14.50
Virginia and Southern, No. 2x. Soft	13.25	@	13.50
Standard Penna. and Virginia Forge	13.00	@	13.25
Ordinary Forge	12.50	@	12.75

Bessemer and Low Phosphorous Iron.—Market dull, but steady at about $15 25 @ $15.50 at furnace for Standard Bessemer, and about $17.50 for strictly choice Low Phosphorous.

Muck Bars.—Nothing doing. There are sellers at $23.75 @ $24, delivered, but no demand worth mentioning.

Steel Billets.—There is some inquiry and some business, but the situation is unsatisfactory in every sense of the word. Western Billets in 500 ton lots and upward have been sold at $23.50 @ $23.65, Schuylkill Valley, and although nominal quotations are $23.75 there would be no difficulty in placing orders at inside figures, providing the right kind of an offer was made. Consumers are not uneasy, however, and show no disposition to buy very far ahead, even at $23.50. Eastern mills quote $24 @ $24.50, delivered, and are doing some business at these figures, but the lots are small, and specifications more exacting than Western mills are willing to accept, hence the difference in price.

Steel Rails.—There seems to be more disposition to place orders, sales within the past few days having been close on to 70,000 tons, including 12,000 by the Cambria to the Louisville & Nashville, 20,000 by the Carnegie Company to the Wabash, and 20,000 by the Maryland Steel Company, 4000 of which were for export to Cuba. Small lots are called for somewhat more freely, and prices are steady at $29, f.o.b. cars at mills.

Bars.—Business is of the same unsatisfactory character as noted for some weeks past. Prices are nominally 1.65¢ @ 1 70¢ for best refined city iron, and 1.60¢ @ 1.65¢ at interior points, but the right kind of an order can be done at considerably lower figures than these. Small lots are fairly steady, but orders for 100 ton lots and upward are eagerly competed for.

Skelp.—There is not much demand and prices are extremely low, consumers talking 1.50¢ with sellers at 1.55¢, delivered, for Grooved. Mills fairly employed but at very unsatisfactory prices and with nothing to indicate any immediate change in the situation.

Plates.—The chief interest is centered in the Cramp Shipbuilding Company's order for Plates, which will aggregate about 20,000 tons. There is a report, which is probably pretty nearly correct, that the Carnegie Company get two of the Hulls, the Carbon Steel Company get the Boiler Plates, and that the balance of the order for the other two ships will be divided between the Wellman, Lukens and the Paxton. Official announcement is expected at any moment, but the chances are likely to be as above indicated. The general market is weak notwithstanding the increased volume of business, and although quotations are nominally unchanged, the following rates can easily be shaded on a good sized order:

	Iron.	Steel.
Tank Plates	1.80 @ 1.90¢	1.85 @ 1.90¢
Shell	2.10	@ 2.20¢
Flange	2.70 @ 2.90¢	2.40 @ 2.50¢
Fire Box	3.00 @ 4.00¢	2.60 @ 2.70¢
Special qualities		3.25 @ 3.75¢

Structural Material.—The Pottsville Iron & Steel Company, in connection with the Phœnix Iron Company, secured the Cramp Shipbuilding Company's order for the Shapes for the four new American steamers, about 4000 tons all told. There is quite a large amount of other work on hand and in prospect, so that mills engaged on this class of material are pretty well provided for, for some time to come. Prices are unchanged, and on a desirable specification not specially firm at about the following figures delivered: Beams, Channels or Tees, 2¢ @ 2.20¢, according to size of order; Angles, 1.85¢ @ 1.95¢; Universal Plates, 1.9¢ @ 1.95¢

Sheets.—There is quite a good demand, and although extremely low prices are quoted in some directions, those who make a first-class article maintain their rates, which are about as follows for moder-

ate-sized lots, some rebate being allowed on large orders:

Best Refined, Nos. 14 to 20.....2.75¢ @ 2.85¢
Best Refined, Nos. 21 to 24.....2.90¢ @ 3.00¢
Best Refined, Nos. 25 to 26.....3.15¢ @ 3.20¢
Best Refined, No. 27.....3.30¢ @ 3 40¢
Best Refined, No. 28.....3.40¢ @ 3 50¢
Common, ¼¢ less than the above.

Quotations given as follows are for the best Open-Hearth Steel, ordinary Bessemer being about ½¢ lower than are here named:

Best Soft Steel, Nos. 14 to 16.....2¾¢ @ 2⅞¢
Best Soft Steel, Nos. 18 to 20..... 3¢ @ 3⅛¢
Best Soft Steel, Nos. 21 to 24.....3¼¢ @ 3⅜¢
Best Soft Steel, Nos. 25 to 26.....3½¢ @ 3¾¢
Best Soft Steel, Nos. 27 to 28.....3¾¢ @ 4¢
Best Bloom Sheets, ¼¢ extra over the above prices.
Best Bloom, Galvanized, discount....70 and 5 %

Old Material.—There is little or no change to report under this heading, the demand being fair at unchanged prices. Some qualities are wanted, others neglected, but in a general way prices are about as follows: Old Iron Rails, $18 @ $19, delivered; Old Street Rails, $19 @ $20; Old Steel Rails, $15 @ $16; No. 1 Railroad Scrap, $16 @ $16.50, Philadelphia, or for deliveries at mills in the interior, $16 @ $17, according to distance and quality; $8 @ $9 for No. 2 Light; $11 @ $12 for Machinery Scrap; $11 @ $12 for Wrought Turnings; $8 for Cast Borings, and nominally $22 for Old Fish Plates, and $13 @ $14 for Old Car Wheels.

Wrought-Iron Pipe. — The market is very irregular, some are inclined to meet the market, others prefer standing idle. Discounts are hardly quotable, as all depends on character of order, but from 5 % to 10 % extra is not hard to get from the general list, which is as follows: Butt, Black, 57½ %; Butt, Galvanized, 50 %; Lap, Black, 67½ %; Lap, Galvanized, 57½ %; Boiler Tubes, 67½ %, all sizes, new list; Casing, 62½ %, new list.

Chicago.

(By Telegraph.)

Office of *The Iron Age*, 59 Dearborn street, CHICAGO, February 8, 1893.

The railroad situation here has been bad enough for some time and previous reference has been made to difficulties experienced in getting prompt deliveries, but it has further been complicated during the past week by the refusal of the Pennsylvania Company to receive freight at Pittsburgh for Western shipment by either of their lines. The reason alleged is that a freight blockade exists which is constantly getting worse, and this step has been deemed necessary so that accumulations may have a chance to get cleared up. This interferes seriously with a great deal of Chicago business originating in Pittsburgh and points in that vicinity. Other railroads than the Pennsylvania are reported to be badly crippled for lack of equipment. They have been forced to such economy for years past that locomotives and other rolling stock have been permitted to run down until they now find that their facilities are not adequate to handle the business offered them. This is said in part to account for the great scarcity of Coal in the Northwest during the past month, which at times almost threatened to be a genuine famine. If the facts are true as reported, the time is not far distant when it will be absolutely necessary for railroads to purchase a very great deal of rolling stock, which would of course be of benefit to the Iron trade.

Pig Iron.—Trade has been very active since our last report; local Coke absorbed by far the greatest part of the business. Heavy consumers seem at last to have made up their minds that Iron is cheap, and therefore have decided to anticipate their requirements for the year if able to buy at existing prices. The transactions of the past week are the largest that have taken place so far this year. Prices are now down to the lowest point ever noted in this market, and are perhaps lower than in any other Northern market for the same grades of Iron. The active condition of trade and the ease with which sales have been made recently, together with the very heavy consumption of Iron, cause manufacturers to feel that they have now seen the depth of the depression and a reaction is looked for, which may not come this month, but is expected about the time spring opens, if not before. The smaller foundries out of town are constantly in trouble, as they have recently purchased only from hand to mouth and the railroads are not delivering promptly, so that they find themselves frequently out of Iron. Complaints on this score are becoming more numerous every day. This is expected to lead to larger orders from this class of consumers to guard against occurrences of that kind. The Coke supply for such foundries is also very short, and sellers are having much trouble in endeavoring to secure better shipments. Southern Iron is fairly active, but only in small lots at slightly lower figures. Consumers are now disposed to order in advance to some extent, if they can secure contracts for the greater part of the year at present prices. Lake Superior Charcoal is quiet but firm. Quotations are as follows, cash, f.o. b. Chicago:

Lake Superior Charcoal.....	$16.50 @ $17.00
Local Coke Foundry, No. 1.....	13.25 @ 13.75
Local Coke Foundry, No. 2.....	12.75 @ 13.25
Local Coke Foundry, No. 3.....	12.50 @ 12 75
Local Scotch	14.00 @ 14.50
Ohio Strong Softeners.....	16.25 @ 17.00
Southern Coke, No. 2.....	13 35 @ 13.60
Southern Coke, No. 3.....	12 85 @ 13 10
Southern, No. 1, Soft.....	13.35 @ 13.60
Southern, No. 2, Soft.....	12 85 @ 13 10
Southern Gray Forge.....	12 60 @ 12 90
Southern Mottled	12.50 @ 12.75
Tennessee Charcoal, No. 1.....	16.50 @ 17.50
Alabama Car Wheel.....	18.35 @ 19.85
Coke Bessemer.....	14.00 @ 14.50
Hocking Valley, No. 1	17.00 @ 17.50
Jackson County Silvery	17.00 @ 17.50

Bars.—A pretty fair movement is reported in a general way. Sales have been made running into a good tonnage, and business has been quite as satisfactory as the previous week, when the reaction took place from the depression of January. Supplementary business is coming forward from agricultural implement makers, and manufacturing consumers in general seem to be in continued need of stock. Prices can hardly be called firm, because there are mills still hungry for business, but in a general way Common Iron is selling at 1.55¢, Chicago, half extras, with concessions from this price according to specifications. Soft Steel Bars are weak, as the supply is increasing from mills which have hitherto been paying more attention to Iron, prices ranging from 1.65¢ to 1.75¢, Chicago, according to the standing of the mill. Small lots from store are quoted at 1.70¢ to 1.80¢ for Bar Iron and 1.80¢ @ 1.90¢ for Soft Steel.

Structural Material.—A very good business is reported in small lots of Beams and considerable figuring is being done on large buildings. The Medinah Temple was expected to be placed last week, but the contractors have not yet made their decision. We continue to quote mill orders, Chicago delivery, as follows: Beams, 2¢ @ 2 25¢; Angles and Universal Plates, 1.85¢ @ 1.95¢.

Plates.—The week has been without any special feature, large orders being scarce, but as far as can be learned there was no further shrinkage in price. Quotations on mill shipment, Chicago delivery, are about as follows: Tank Steel, 1.90¢ @ 2¢; Sheet Steel, 2.10¢ @ 2.15¢; Flange Steel, 2.27¢ @ 2.30¢; Ordinary Fire Box, 3.50¢. Store prices continue as follows: No. 10 to 14 Iron or Steel Sheets, 2.35¢ @ 2.60¢; Tank Steel, 2.25¢ @ 2.40¢; Shell, 2.40¢ @ 2.60¢; Flange Steel, 2.70¢ @ 2 90¢. Tubes are quoted at 60 % off, with concessions on desirable orders. Store prices are maintained very well for special causes, notwithstanding the quietness of trade.

Sheets.—Black Sheets are in only moderate demand, but prices have eased off little for future delivery. For anything like early delivery No. 27 Common is still quoted at 2.85¢ @ 2.90¢ from mill and Steel sheets 2.95¢ @ 3.00¢. The demand for Galvanized Iron is very good from outside points, but is still quiet in the city. Manufacturers are slow in making shipments, but notwithstanding this low prices still prevail. We continue to quote Juniata at 70 and 10 % for mill shipments and 70 % in small lots.

Merchant Steel. — Prices for Open-Hearth Machinery and Soring Steel appear to be unaffected by influences prevailing in other branches of trade and range steadily at 2¢ @ 2.20¢, Chicago. Ordinary Tool Steel, 6¢ @ 7¢, according to quantity.

Rail and Track Supplies.—Nothing new has occurred in the Steel Rail trade. The conditions are precisely the same as previously reported, manufacturers waiting for railroads to decide upon quantities and sections which will be needed for the supply for this year. Quotations are unchanged at $30 @ $32, according to quantity. Iron and Steel Splice Bars continue to be quoted at 1.65¢ @ 1.75¢; Track Bolts with Hexagon Nuts, 2. 60¢ @ 2 70¢; Spikes, 2¢ @ 2.05¢.

Old Rails and Wheels.—Old Iron Rails are very quiet. The visible supply is not large and holders are firmly asking $19, but consumers will not pay that price and say they are not now in want of stock, but will wait further developments before testing the market. Old Steel Rails are in light demand and are quoted nominally at $11.50 for short pieces and $13 for long lengths. Old Car Wheels are unchanged at $14.75 @ $15.

Scrap.—Inquiries are in the market for considerable quantities of Forge, but actual business has been light since our last report. Dealers continue to quote unchanged prices, believing that the severity of the weather will prevent stock from accumulating in the country and enable them so sustain values.

Metals.—Lake Copper is still quoted at 12½¢ for carloads, and casting brands 11½¢. The average volume of business is moving. Spelter is unchanged at 4.15¢ @ 4.20¢ for carload lots of prime Western. Pig Lead has improved slightly and quotations are now 3.72½¢ @ 3.75¢. Producers are hopeful that prices will show further improvement in the near future.

Cincinnati.

(By Telegraph.)

Office of *The Iron Age*, Fifth and Main Sts., CINCINNATI, February 8, 1893.

There has been a weaker tone to the Pig Iron market in general during the week, and quotations are reduced on several grades of Iron. The volume of business was not large, for consumers are not disposed to buy beyond their current necessities, and yet there was rather more buying in 1 to 5 carload lots, which in the aggregate makes a fair distribution. Some of the Northern furnaces have given orders to their agents to meet all competition and have consequently sold considerable Iron which otherwise would have been furnished by the Southern furnaces. The low price of Bessemer Iron has evidently set the pace for other Iron producers both North and South. In the existing condition of the market no large

contracts for forward delivery could reasonably be expected, but as all evidence points to a large consumption in progress it is probable that the current consumptive demand will increase. The large Iron companies in the South do not offer to sell at lower prices and report a steady reduction in stocks, so that the solution is not unsatisfactory to them, whatever it may be to producers in general. Quotations are as follows:

Foundry.

Southern Coke, No. 1	$13 25 @ $13.50
Southern Coke, No. 2	12.25 @ 12.50
Southern Coke, No. 3	11 75 @ 12.00
Ohio Soft Stone Coal, No. 1	16.00 @ 16 25
Ohio Soft Stone Coal, No. 2	15.00 @ 15.25
Mahoning and Shenango Valley	15 25 @ 16.25
Hanging Rock Charcoal, No. 1	19 00 @ 19.25
Hanging Rock Charcoal, No. 2	18.00 @ 18.50
Tennessee and Alabama Charcoal, No. 1	15.50 @ 15.75
Tennessee and Alabama Charcoal, No. 2	14.50 @ 14.75

Forge.

Gray Forge	11.25 @ 11 50
Mottled Neutral Coke	11.00 @ 11.25

Car Wheel and Malleable Irons.

Standard Southern Car Wheel	18.00 @ 19.00
Lake Superior Car Wheel and Malleable	17.75 @ 18.00

Baltimore.

BALTIMORE, February 7, 1893.

We are glad to be able to report an increased demand for some lines in this territory, but regret that it has not improved prices; indeed in some lines we are forced to revise prices named last week. The opening of the rivers has permitted the resumption of shipping, and boats in need of repairs are being placed on the drydocks, which will occasion still further demands and should advance prices if sellers keep their balance. Demands for material for immediate delivery in Washington, to avoid the stoppage of freight incident to the inauguration ceremony, are frequent and such deliveries command fair prices. Collections are slow, not withstanding the fact that money seems plenty in the cities.

As one customer of a leading merchant puts it "money is like molasses in cold weather—there may be plenty of it, but it moves slowly."

Bars.—The feeling in bars is that there will be a reaction shortly and prices will advance. At present, however, the increased demand has not bettered prices, as the dealers are greedily taking all in sight. Quotations are: From mill, in carloads, 1.80¢; from stock, 1.90¢ @ 2¢.

Plates.—The market as regards demand is about stationary, but we are compelled to name lower prices on Tank Steel. Boiler Plate holds its own. Tank Steel or Iron, 1.85¢ @ 1.95¢; Shell Steel, 2.20¢ @ 2.25¢; Flange Steel, 2.40¢ @ 2.45¢; Fire Box Steel, 2.55¢ @ 2.60¢; Marine Steel, 2.55¢ @ 2.60¢.

Merchant Steel.—This later cold snap has somewhat dampened the hopes that the milder weather would bring a large demand. When the mild weather does come there is certain to be a good lot of this grade of material sold. Machinery Steel, 2.15¢ @ 2.30¢; Tire Steel, 2.15¢ @ 2.25¢; Toe Calk, 2.35¢ @ 2.45¢; Spring Steel, 2.50 @ 2.60¢.

Light Sheets.—There is nothing to report in this line except that the demand has fallen off almost entirely.

Boiler Tubes.—This is the one bright spot as regards demand, and fair prices could be obtained if sellers did not lose their heads when specifications were placed before them, as one firm in this city did on sight of a small lot of 2 inch, upon which they quoted 70% off new list. This quotation is all the more inexplicable when we state that the next lowest price named on this lot was 60 and 5%. We, however, quote as follows: 3 inch, from stock, 65%, 2-inch, 60% off; from mill 5% additional.

Cleveland.

CLEVELAND, OHIO, February 6, 1893.

Iron Ore.—More old Ore has been sold from the docks during the past week, but the opening of the market for the 1893 output seems several weeks away. Prices may have been talked over among certain Ore men, but nothing has been done in the way of fixing quotations. It seems to be generally understood that prices will be at least as low as last season, and it is believed that they will be perhaps 25¢ ℔ ton lower all around. Vessel rates are reasonably certain to be close to last year's minimum figures—60¢ from Escanaba, 75¢ from Marquette, and 90¢ from Ashland and Two Harbors. In fact the market for 1893 will be put on a strictly business basis, with a view to getting the Ore to the consumers at the least possible cost. Buyers are reaching out slowly for the unsold non-Bessemer on the docks, and are paying about an even $3 ℔ ton. Despite all that has been written about Mesaba Ore it really does not figure so largely in the early season's preliminaries as many imagine. That it will be a factor, and that it may be possible to buy it for something like $3.75 @ $3.85 a ton, is more than possible, but that a single mine is to seriously interfere with many old established mines turning out Ores that are always in demand is not credited by experienced Iron dealers. There is a possibility of some early sales of new Ore prior to March 1, but that any will be made depends largely upon any changes for the better in the Pig Iron market. During the past week about 24,000 tons of Ore were forwarded to the furnaces. It is still evident, however, that the first cargoes of new Ore for 1893 will find pretty big stock piles still on the docks at Cleveland, Fairport and Ashtabula.

Pig Iron.—Although Gray Forge continues weak, Bessemer Iron has strengthened up a little and some business is reported at prices very close to $13 50 ℔ ton, Cleveland. Dealers insist that this price has not been shaded here and announce quotations for Bessemer at $13.50 @ $13.65, Cleveland delivery. No. 1 Foundry is still quoted at $14, but this price is believed to be somewhat easy to shade; so easy in fact that some Southern Irons are said to have dropped out from present competition. The market shows signs of improvement, but scarcely enough to warrant any changes in quotations.

Old Rails.—Light business reported and only an occasional sale at $19 @ $19.50 for Old Americans.

Scrap.—The market continues dull, with No. 1 Railroad Wrought quoted at $15 @ $15 50 ℔ net ton; Wrought Iron Turnings, $10 ℔ net ton and Cast Iron Borings at $7.50 ℔ gross ton.

Nails.—For a change the market shows signs of improvement and the demand is stronger for both Wire and Cut Nails at no change in prices.

Muck Bar.—The demand is a trifle better and some sales are reported at $24.25 @ $24.50, Cleveland.

Old Wheels.—A sale at $14 ℔ ton, Cleveland, is reported. The number of inquiries is quite large.

Bar Iron.—The mills are fairly active and the demand seems fairly good at 1.60¢ @ 1.65¢. Several heavy buyers are said to be just about ready to make substantial investments.

Freights.—Present quotations are: Ore, Cleveland to Valley points, 62½¢; Cleveland to Pittsburgh, $1.25; Pig Iron: Valley points to Cleveland, 60¢ ℔ ton; to Pittsburgh, 60¢. Muck Bar, Blooms, Billets, Scrap, Iron and Steel Rails, Old Wheels, &c.: Valley points to Cleveland, 70¢ ℔ ton; to Pittsburgh, 75¢ ℔ ton; to Boston, $3.10 ℔ ton; to New York, $2.70 ℔ ton; to Philadelphia, $2.10 ℔ ton; to Newark, $2.50 ℔ ton.

Under date of January 28, W. C. Runyon and W. E. Mack announce the dissolution of the Iron Ore commission firm of Runyon, Mack & Co., and that the business of the partnership will be settled by either of them. They have been associated in Iron Ore selling since 1886, the firm of Runyon, Stubbs & Mack being in existence from that year until 1890, and since the latter year the style has been Runyon, Mack & Co. Mr. Runyon will continue in the same business at the offices heretofore occupied by the firm, 506–507 Perry Payne Building. Mr. Mack's offices will be in the Western Reserve Building. He will be in the same business as heretofore, but definite announcement as to his connection will be made later.

Boston.

Office of *The Iron Age*, 146 Franklin St., BOSTON, February 8, 1893.

Pig Iron.—Trade continues quiet. The representative of a prominent Boston house has just returned from an extended tour in the Southern Iron districts. He considers that the stocks of Iron in Virginia are not large, but in Alabama there is a full supply. The sentiment he heard expressed was that any lower prices would result in putting furnaces out of blast, while those now out of blast do not find sufficient encouragement in the present market to go into blast again. The foundry people here are well employed, but they are buying Iron only as they require it. They see nothing in the situation to induce them to order heavily. Southern Iron, laid down in Boston, is quoted at: No. 1, $15.50 @ $16; No. 2, $14 50 @ $15; No. 3, $14 @ $14 50. For Pennsylvania and Western Irons the demand is quiet, the most of the trade taking Southern Iron. Quotations are at: No. 1, $15 @ $15 50; No. 2, $14 @ $14 50; Gray Forge, $13 @ $13.50. These quotations are for Iron at shipping port. Western Irons are quoted at $17 @ $18 for Iron delivered in Boston.

Bar Iron.—The feature in the Bar Iron market is the recent sale of some 1600 tons to the dealers here by a New England rolling mill that has not been soliciting trade here much till very recently. The Iron is sold to be delivered as wanted, and the price is understood to be at 1 65¢ for ordinary Bars at mill. It is explained that the trade has made the contracts for the reason that they believe that Bar Iron is "on the bottom." The quotations here are: Ordinary Bars from mill, 1.65¢ @ 1.70¢, from store, 1.70¢ @ 1.80¢. Advices to a prominent house here, by mail of January 18, quotes Swedish Iron, for delivery at the opening of navigation, at a price that will make the Iron cost about $62 ℔ ton, delivered in Boston, ex-ship, for Bars and Shapes. This will leave the quotations on Norway and Swedish Bars and Shapes at $66 @ $67.50. It is also understood that prominent dealers here have lately cut prices on the Iron they hold to these figures.

Steel and Steel Plates.—The demand for Steel is good, though the tendency is still believed to be easy, in the matter of values. The market is quoted at: Bessemer, 2.15¢ @ 2¼¢; Machinery, 2.10¢ @ 2¼¢; Tire and Sleigh Shoe, 2¢ @ 2.10¢; Sheet, 2¼¢ @ 2½¢; American Cast, 7¢ @ 7½¢; English Cast, 14¢ @ 15¢. American

Steel Rails are quoted at $29, at mill. There are no new features in Rails. Plates are in good request, but low prices are still complained of. The receivers recently appointed for the Pottstown Iron Company are Jacob Fegley and Wm. M. Gordon. The company, through their agent here, are now filling orders with a promptness that pleases the trade, and it looks as though matters were to go on better than ever. Plates are quoted at: Tank, 1.95¢ @ 2¢; Shell, 2.10¢ @ 2.15¢; Flange, 2.30¢ @ 3.35¢; Fire Box, 2.65¢ @ 3¼¢.

Structural Iron.—The demand for Structural Iron continues very good indeed, though the claim of low prices is in this class of Iron also. Large contracts continue to be placed. New England is rather proud of some of her contractors. The Berlin Iron Bridge Company of East Berlin, Conn., have just secured a big contract for structural works at Detroit, Mich. The contract embraces some 350 tons of material, embracing Beams, Channels, Angles and Tees. Jones & Laughlin of Pittsburgh, have secured the order for a part of the Channels and a big portion of the Beams, through their Eastern agents here, Bullard & Post. Quotations on Structural Iron for this market are at: Beams and Channels, 2.10¢ @ 2.20¢ from mill and 2¼¢ @ 3¢ from store; Angles, 2¢ @ 2.12½¢ from mill and 2¼¢ @ 2½¢ from store; Tees, 2.40¢ @ 2½¢ from mill and 2½¢ @ 3½¢ from store.

Pipe and Tubes.—Trade is good in Pipe and Fittings, with some good contracts for water works being placed. Matters now look as though there would be more water works laid in 1893 than ever before. Boston dealers have even secured some good orders for Wrought Iron Pipe and Fittings for water works in Southern cities. The big contract for 3700 tons of Cast Iron Pipes and special castings for the city of Boston Water Board, lately awarded, went to R. D. Wood & Co. of Philadelphia, for $68,916.30. There were four other bidders. The McNeal Pipe & Foundry Company of Burlington, N. J., bid $69,465; the Warren Foundry & Machine Company of Phillipsburg, N. J., bid $70,820; the Mellert Foundry & Machine Company of Reading, Pa., bid $74,657; the Radford Pipe & Foundry Company of Radford, Va., bid only on a part of the specifications. Some of the stronger concerns here did not bid at all, after examining the specifications and conditions, deeming the chances too greatly against the contractor and in favor of the corporation. There are no changes in the quotation on Wrought Iron Pipe and Boiler Tubes.

Old Iron continues dull, with a lack of buyers. Prices are not changed.

H. W. Hayes, 70 Kilby street, Boston, resident agent of Edward Corning & Co., announces that the agency for the Phœnix Iron Company and the Paxton Rolling Mills for New England has been secured by his firm.

Louisville.

February 4, 1893

There is a strong feeling that it will be necessary for lower prices to be made, and buyers claim that concessions have been made on all grades, No 1 Foundry being offered on basis of $10.50, Birmingham, and Gray Forge, $8.50, and a number of transactions have gone through on that basis. It is unfortunate that prices have changed, as consumption is going forward on a large scale, and buyers have not been carrying stocks to a great extent, but they have felt that the market was in their favor and have declined to purchase heavily, so that by delaying it has forced some furnaces who wished to make sales to offer inside prices. This has succeeded in demoralizing the market to an extent that buyers are unwilling to purchase unless concessions can be obtained, and furnaces whose position was strong enough to hold prices without change may have to meet same. The indications are that $8.50 Birmingham, or less, for Gray Forge will prevail for some little time to come.

Car Wheel Irons are not in large demand and prices have fallen off slightly.

We quote for cash f.o.b. cars Louisville:

Southern Coke, No. 1 Foundry	$13.00 @ $13.25
Southern Coke, No. 2 Foundry	12.00 @ 12.25
Southern Coke, No. 3 Foundry	11.25 @ 11.50
Southern Coke, Gray Forge	11.00 @ 11.25
Southern Charcoal, No. 1 Foundry	15.00 @ 16.00
Southern Car Wheel	17.50 @ 17.75

Pittsburgh.

Office of *The Iron Age*, Hamilton Building, Pittsburgh, February 7, 1893.

The first week in February has probably found a better feeling in many departments of the Iron and Steel trades than has existed for several months past. The reason for this lies in the fact, principally, that buyers are more numerous, and in addition, a decided disposition is being manifested by buyers of certain classes of materials to anticipate wants to some extent.

Pig Iron.—Ten days ago Bessemer Pig was quoted freely in this market at $13.25 and in some instances even this remarkably low price was shaded, reports going that one lot changed hands on a basis of $13.02, Pittsburgh. These low prices brought a number of buyers into the market, and persistent attempts were made to force the price down to $13, Pittsburgh, but in only one case with success. Furnacemen who had refused to accept 25¢ less for their Iron commenced to look about, and after thoroughly sizing up the situation, announced the withdrawal of all offers below $13.25. When buyers discovered the independent attitude of furnacemen, and further saw that the next move would be in the nature of an advance, buying commenced pretty freely, and in less than 48 hours the market scored a clean advance of not less than 25¢ ₱ ton, sales having been made during the latter part of last week at $13.40 @ $13.50, Pittsburgh. Reliable information is to the effect that from 18,000 to 21,000 tons of Bessemer Iron changed hands in this market last week, at prices ranging from $13.25 to $13.50, Pittsburgh, and the market is firm to-day at the last-named quotation. The fact that one of the largest Pig Iron making concerns in this district has retired as a seller and appeared as a buyer has had considerable to do with the sudden turn taken by the market. In addition to this the hand-to-mouth buying policy that has been pursued for so long has left buyers with practically no Iron on hand, and when the market showed symptoms of an advance, there were hurried efforts made to cover future requirements. As to the immediate future of the market, little or nothing can be said with certainty. Some makers state that the conditions surrounding the market are extremely favorable, and that the advance will not only be sustained, but that even better prices will prevail before long. On the other hand, buyers claim that the spurt in price is only of that kind which comes periodically, and in view of the large productive capacity now idle, but which can be blown in on short notice, the advance cannot be maintained for any considerable length of time. It is evident, however, that the future course of one or two of the largest producers in this vicinity will have much to do with the future of the market. Gray Forge is slightly firmer, but very little material is moving. Nos. 1 and 2 Foundry are only in moderate demand, and we have reduced quotations slightly on both brands. We quote as follows:

Neutral Gray Forge	$12.25 @ ..... cash.
All-Ore Mill	12.50 @ $12.75, "
No. 1 Foundry	13.75 @ 14.00, "
No. 2 Foundry	12.75 @ 13.00, "
Charcoal Foundry No. 1	19.00 @ 20.00, "
Charcoal Foundry No. 2	18.50 @ 19.00, "
Bessemer Pig	13.35 @ 13.50, "

We note a sale of 10,000 tons of Bessemer for delivery in February and March, made about the middle of last week at a price equal to about $13.25, Pittsburgh; also 5000 tons for March, April and May, at $13.30, Pittsburgh, and 1000 tons for February and March at $13 50, Pittsburgh. Also three sales of Gray Forge aggregating 1750 tons at $12.25, Pittsburgh.

Billets.—At no time within the last couple of months have there been as many inquiries in the market for Steel as there are at present. As yet, however, no large blocks have changed hands, principally for the reason that sellers do not show any disposition to do business at prices offered by buyers, which are about equal to $21, delivered, Pittsburgh, or $22, Cleveland. Within the past week, firm offers based on the above prices have been declined by both Pittsburgh and Wheeling mills. The sharp advance in Bessemer Pig noted elsewhere has no doubt had much to do with the firmer tendency in the Steel market, and there is a disposition among makers, both in this city and in Wheeling, to hold back and await future developments, believing that slightly better prices will soon prevail. There is no denying the fact that the advantage just now seems to be on the side of the makers. As a majority of the mills have enough orders to keep them busy during this month at least, and some of them well into March, it will be seen that they are prepared to maintain their position for some little time. It is not believed that $21 25 at mill could be shaded, and some small lots have been sold within the past week at slightly better figures than the above.

Ferromanganese.—The market continues quiet and price of domestic is given at $59 50, f.o.b. cars Pittsburgh. The numerous sales made in this market during the past month or two have pretty fully covered buyers' wants for some little time to come. Offers of foreign have been made in this market on a basis of $59, f.o.b. cars at Pittsburgh.

Structural Material.—Trade continues somewhat quiet, although considerable business is in sight, which is expected to develop just as soon as we have more favorable weather. Competition on Structural Shapes of all kinds continues very severe and reports are going of some very low prices being made. The following quotations about represent what is being obtained for small lots: Beams and Channels, 1.85¢ @ 1.90¢, f.o.b. cars Pittsburgh; Angles, 1.70¢ @ 1.75¢; Universal Mill Plates, 1.70¢ @ 1.75¢; Z Bars, 1.90¢ and Tees 2.05¢ @ 2.15¢.

Steel Plates.—Outside of the large order for Plates taken by the Carbon Steel Company of this city from the Cramp concern in Philadelphia but little new business of more than ordinary character has been placed for some time. While the outlook for the future, as far as volume of business is concerned, is encouraging, it is the general impression that severe competition will have the effect of keeping prices down to a very low point. For ordinary lots the market is represented by the following quotations: Flange, 2.05¢ @ 2.10¢; best Fire Box, 3.40¢ @ 3.50¢; Tank, 1.70¢ @ 1.75¢; Bridge Plates, 1.90¢; Shell, 1.95¢ @ 2¢.

Steel Rails.—Advices received here goes to show that the Pennsylvania Railroad order was for 60,000 tons, with probabilities of the tonnage being increased in

the near future. Best advices indicate that Cambria, Pennsylvania and Carnegie participated equally in the order. The report that Edgar Thomson had again gone on billets is untrue, as rails are now being rolled and have been for several weeks past. Prices remain at $29 at mill.

Wire Rods.—The situation has not improved either as regards demand or prices, and $29.50, Pittsburgh, about represents what is being obtained for the limited amount of Rods now selling. For a desirable order it is probable that the above price would be shaded to some extent.

Muck Bars.—These continue very dull, with prices remaining at $24.25, Pittsburgh, for best grades of Muck Bars. Sales are made occasionally of inferior brands at slightly less than this price. We note a sale of 300 tons made last week of best grade Muck Bar at $24.25, Pittsburgh.

Wire and Cut Nails.—A meeting of the Wire Nail manufacturers was held in Chicago on Friday of last week at which Pittsburgh was represented. We are advised that after a thorough canvass of the situation prices were reaffirmed at $1.40 at mill. Attempts made here by buyers within the last week or ten days to shade $1.40 at mill have been unsuccessful and some concerns are willing to book orders only for immediate shipment at that price, in the belief that higher prices within a short time are more than probable. A slight improvement in demand for Cut Nails is reported and considerable quantities have been sent to Southern points by Wheeling mills during the past several weeks. We continue to quote Cut Nails at $1.42½ @ $1.45 on a 30 cent average, f.o.b. in Wheeling district. Some buyers of Cut Nails in this vicinity are not favorably impressed with the new card adopted at Philadelphia last week and predict that it will have a short life.

Wire.—As it is still out of season and the hardware trade not having commenced to make purchases, the demand for both Plain and Barb Wire continues small. Prices are unchanged and we continue to quote Plain Barb at 2 ¢ and Galvanized at 2.40¢, f.o.b. at makers' mill, in carload lots.

Bars.—A slight improvement in demand in this branch of trade is reported, and makers state that with an increased demand the very low prices at which considerable business has been taken will soon be a thing of the past. Already a number of mills that had named exceptionally low prices in order to secure business to keep running, having booked quite largely, have withdrawn lowest quotations. One of the largest makers in this city states that the outlook has improved considerably during the past few weeks and that a large amount of business will probably be placed in the near future. We continue to quote at 1.55¢ @ 1.60¢, Pittsburgh, half extras; Soft Steel Bars we quote at 1.62½¢ @ 1.70¢. In the Mahoning Valley Bars are held at 1.40¢ @ 1.45¢, half extras.

Old Material.—The market for all kinds of Scrap Material is exceedingly dull, and there is a wide range in prices. No. 1 Railroad Wrought Scrap is weak and in very limited demand at $15 ℔ net ton; Cast Iron Borings we quote nominally at $7.50 ℔ gross ton; Leaf Springs at $20 @ $20.25 ℔ gross ton, while Coil Springs are exceedingly dull at $18 ℔ gross ton. Nothing is doing in Old Rails, and these may be quoted nominally at $15.50 for short lengths and $15 for mixed lengths and $15.25 for long lengths.

Sheets.—The market is in about the same condition as noted last week. There is an ordinary demand for small lots, but the large buyers are still holding off and are not expected to enter the market for some little time yet. Prices are about as given last week, and we continue to quote No. 24 Ordinary Black Sheets at 2.50¢ @ 2.55¢, No. 26 at 2.60¢ @ 2.65¢, and No. 27 at 2.70¢ @ 2.75¢. For best grades of Bessemer Steel Sheets from $1 to $2 per ton advance on the above prices is obtained. Discounts on Galvanized Sheets, Best Bloom, remain at 70 and 5 % and 70 and 10 %, according to size of order.

New reduced class rates from Pittsburgh to Duluth, St. Paul and Minneapolis via Chicago will shortly go into effect, having been agreed upon by the Pittsburgh Freight Committee. The new rates will be 95¢, 85¢, 66¢, 42¢, 35¢ and 30¢ ℔ 100 lb.

Pittsburgh Freight Rates.

The following rates supplement those published in *The Iron Age*, February 2, page 254.

Between Pittsburgh and	Group 1. Per ton.	Group 1. Per ton.
Mahoning Valley, Shenango Valley & Wheeling, W. Va.	$0.60	$0.75
Steubenville, Ohio	.50	.65
McKeesport, Pa	.30	.30
Braddock, Pa	.30	.35
Dunbar, Pa	.60	.75
Kittanning, Pa	.50	.55
Johnstown, Pa	.75	.80
From Pittsburgh, Beaver Falls, Homestead, Rankin, Braddock and McKeesport to		
Boston, Mass	$3.10	$3.10
Buffalo, N. Y	1.25	1.25
Findlay, Ohio	1.75	1.75
Newark, N. J	2.70	2.70
New York City, N. Y.	2.70	2.70
Philadelphia, Pa	2.30	2.30

Rates shown under head of group 1 will apply on Pig Iron, Mill Cinder and Scale, per gross ton, and on Cast-Iron Pipe, per net ton, in carloads of 12 tons, net or gross, and over.

Rates shown under head of group 2 will apply on Billets (Iron or Steel), Blooms (Iron or Steel), Borings (Iron or Steel), Chain Irons (in coils), Crop Ends (Iron or Steel), Ingots (Iron or Steel), Muck or Puddle Bars, Old Car Wheels and Axles, Old Rails, Scrap Iron, Scrap Steel, Scrap Tin, Slabs, unfinished (Iron or Steel), and Wire Rods (in coils), per gross ton, and on Ingot Molds per net ton, in carloads of 12 tons, net or gross, and over.

(*By Telegraph.*)

The firmer tendency in the Bessemer Iron market continues, and Bessemer Iron for prompt shipment is strong at $13.50, Pittsburgh. The entrance of two or three large makers into the market as buyers is given as the principal reason for the sharp advance in prices. There is considerable scarcity of Bessemer for prompt shipment, several furnaces having recently declined to accept any more orders for shipment before April.

The Billet market is also firmer, sales of prompt Steel having been made on the basis of $21.50, Pittsburgh, for small lots.

St. Louis.

Office of *The Iron Age*,
Bank of Commerce Building,
ST. LOUIS, February 6, 1893.

Pig Iron.—During the week under review the market has been extremely weak and prices are lower in consequence. Sales were not large, but on the whole fairly satisfactory. Consumers are taking advantage of the present condition of the market, and are buying in limited quantities, and each purchase helps to drive prices lower. A few furnaces are holding their prices, but as a consequence are not doing any business. It does not seem possible that the stronger Southern furnaces will sit idle and allow business to be taken from them, and it will not be long before they begin to protect themselves, which means a still lower market than at present prevailing. At the moment Gray Forge is being sold at $8.50, f.o.b. cars Birmingham, while No. 2 and No. 3 Foundry command $9.50 and $9 respectively. There is a feeling of uneasiness among furnacemen which is gaining ground daily, and the general impression seems to be that a lower range of prices is inevitable. During the week under review sales were, as stated above, of good value. We quote as follows for cash, f.o.b. cars St. Louis:

Southern Coke, No. 1 Foundry,	$14.00 @	$14.50
Southern Coke, No. 2 Foundry,	12.75 @	13.00
Southern Coke, No. 3 Foundry,	12.25 @	12.50
Southern Gray Forge	11.75 @	12.00
Southern Car Wheel	18.00 @	18.50
Lake Superior Car Wheel	17.50 @	18.00
Ohio Softeners	16.25 @	17.00
Missouri Charcoal, No. 1 Foundry	14.00 @	14.50

Bar Iron.—The situation in this department is practically unchanged. The demand is only moderately active, and prices, while weak, are not quotably lower. Sales during the past week were not large, but indications point to a largely increased trade, as inquiries are very numerous. Mills quote 1.60¢, f.o.b. cars East St. Louis, half extras. Jobbers ask 1.75¢ @ 1.80¢, according to quantity.

Barb Wire.—The demand shows some signs of improving, but prices are still weak. Sales are made on the basis of $2.15 for carload lots of Painted to jobbers. Galvanized commands $2.60

Wire Nails.—Business in this department is perhaps a trifle better than last reported, but prices fail to improve to any extent. Mills quote $1.55 for carload quantities to jobbers, who are watching the market carefully, and are ready to take advantage of any weak spots, and place orders for spring delivery.

Freight Rates.

Pig Iron	Per ton.
Birmingham, Ala., to St. Louis	$3.25
Chattanooga, Tenn., to St. Louis	3.00
Sheffield, Ala., to St. Louis	2.80
Barb Wire and Wire Nails.	**Per cwt.**
Pittsburgh, Pa., to St. Louis	22¢
Cleveland, Ohio, to St. Louis	18¢
Anderson, Ohio, to St. Louis	14¢

(*By Telegraph February 7.*)

Pig Lead.—This metal continues to show increased firmness, and sellers are asking 3.70¢ for carload lots. Larger orders could be placed at 3.67½¢. The feeling is one of inherent strength, and as the market is now acting a higher range of prices is among the probabilities. During the past week upward of 250 tons changed hands at from 3.65¢ to 3.67½¢, and at the close to-day offerings at the latter figure are limited.

Spelter.—In sympathy with Pig Lead, Spelter is quoted a trifle higher, sales having been made at 4.07½¢. The low price of Ores, however, and the general demoralization in the Iron trade will prevent, to a certain extent, any rapid advance. The London market is practically cut off and home consumption does not show any signs of early improvement.

Rogers, Brown & Meacham, Laclede Building, St. Louis, favor us with a copy of a neat pamphlet which the Cincinnati house of this concern are sending to the trade. The pamphlet contains some interesting figures showing total sales of Pig Iron for the year 1892 of 487,659 tons, an increase over 1891 of 100,376

tons. They have offices located in different parts of the country, and state the daily average of sales of the combined offices is something over 1700 tons.

Metal Market.

Copper.—The position of the market remains practically the same as it was a week ago. At all events, orders do not appear to have become more numerous, nor is there evidence of greater pressure to sell on the part of producers or outside holders. The fact that several thousand tons of French Syndicate Copper were unearthed in Europe not long ago is not lost sight of, nor is the probability that more may be discovered in America overlooked. In point of fact there is reason for more than a vague suspicion that the intended effect of the regulation of output and the curtailment thus far is discounted in a great measure by cautious buyers. While one side of the market may thus be somewhat uncertain, a counteracting influence exists in the fact that manufacturers of the general line of Copper and Brass on this side of the Atlantic are well employed and that prospects are favorable for increased consumption of Copper in various lines as the spring season advances. At present there are buying orders for Lake Superior Ingot at 12¢, regular terms. Yet small lots offered at 12.10¢ net cash on the spot go a-begging. Producers' agents here quote 12⅛¢ @ 12¼¢, delivered, and, to all accounts, they are making some sales at these figures. In casting stock there has not been a great deal doing, but the offering is quite as reserved as the demand, and prices stand at about 11¼¢ @ 11⅜¢, according to brand and size of lot. The monthly report of the Bureau of Statistics affords the following comparison of exports of Copper from the United States during the past two years:

	1892.	1891.
Ore—	Tons.	Tons.
To United Kingdom	48,468	36,160
To Germany	1,462	2,130
To other Europe	165	316
Total	50,495	38,606
Ingots—	Pounds.	Pounds.
To United Kingdom	3,086,927	16,791,460
To Germany	6,055,682	6,581,910
To France	9,721,467	25,628,844
To other Europe	11,502,454	20,0[illegible],620
To other countries	149,206	178,190
Total	30,515,736	60,279,024

Pig Tin.—Uncertainty as to what may be done in the way of legislation at Washington on the matter of duty on foreign Pig Tin seems to stand in the way of speculative movement, and the plain fact that leading operators have a considerable burden to take care of is also a drawback to outside venture as well as to trade purchases not dictated by imperative wants. That the latter are fully up to or above the average for the season is generally admitted, but statistics go to show that the stock on spot and afloat is unusually heavy and warrant the deduction that outside of the McKinley tariff there is nothing to prevent the natural outcome of present heavy visible supply. Harney Peak mine news suggests a tendency on the part of the managers of the enterprise to hold aloof for all the advantages that may be gained by keeping out of the market until something definite is learned as to the fate of the McKinley tariff, and thus add to the complications surrounding the market. Despite the several uncertain and not altogether favorable influences, the leading operators have succeeded in holding prices up remarkably well. On the Metal Exchange transactions involving about 600 tons have been recorded, including prompt delivery at from 20.05¢ up to 20.20¢, February delivery at 20.10¢ @ 20.20¢, March at 20.17½¢ @ 20½¢, April at 20.35¢ and May at 20.45¢. At or close to those prices there has been a very fair outside business. The market at the close was very firm, with little if any stock on offer, at less than 20½¢ net cash for 10-ton lots on spot, and jobbing quantities held at corresponding prices.

Pig Lead.—A few hundred tons have been placed at 3.92½¢ @ 3.95¢, and some single carload lots at as high as 3.97½¢, but the entire business, to all accounts, contrasts somewhat unfavorably with that of the week previous. The tone of the market, however, continues fairly strong under the influence of conditions referred to last week and the fact that stocks in Eastern consumers' hands are apparently below the average. Speculative interest in this quarter is extremely tame; the jobbing trade are conservative buyers also, and, upon the whole, present prices appear to be quite as high as trade conditions would fully warrant.

Spelter.—Western brands have been sold at as low as 4.30¢, delivered in the East. The volume of business at that price is uncertain, yet believed to be considerable. Some late advices indicate an improvement latterly in the tone of the primal markets, but most accounts go to show that the production is excessive, although low prices seem likely to lead to curtailment of output in some of the least favored sections ere long. Export outlet is narrow, and the chances for profit on shipments between present cost here and selling basis in Europe are extremely vague.

Antimony.—In a jobbing way there has been about the usual business, but dealings otherwise continue on a very moderate scale and prices remain almost stationary. Current quotations are 10½¢ @ 10⅝¢ for Hallett's, 10½¢ @ 10⅝¢ for LX, 10½¢ for Crown, and 10½¢ @ 11¢ for Cookson's, as to quantity.

Tin Plate.—Additional large orders have been placed for ordinary Bessemer Steel Cokes, spring season delivery. In some instances a further advance of 2½¢ per box was paid, making a rise of 5¢ since the beginning of the month. Similar class of Plates has been taken on the spot rather more freely also and holders now ask about 2½¢ advance on former prices for 95 lb and lighter weights. Otherwise business continues moderate and the changes in prices are few and unimportant. We quote as follows: Coke Tins—Penlan grade, IC, 14 x 20, scarce; J. B. grade, do., scarce; Bessemer full weight, $5.35; light weights, $5.10 for 100 lb, $4.95 to $5 00 for 95 lb, $4.80 to $4.85 for 90-lb. Siemens Steel scarce. Stamping Plates—Bessemer Steel, Coke finish, IC basis, $5.60 @ $5.65; Siemens Steel, IC basis, $5.75; IX basis, $6.85. IC Charcoals—Melyn grade, ¼ X assortment, $6.40; Crosses, $8; Allaway grade, any assortment, $5.70; Crosses, $7; Grange grade, any assortment, $5.85; Crosses, $7.10. Charcoal Ternes—Worcester, 14 x 20, $5.70; do., 20 x 28, $11.35; M. F., 14 x 20, $7.75; do., 20 x 28, $13.50; Dean grade, 14 x 20, $5.30 @ $5.37½; do., 20 x 28, $10.50 @ $10.70; D. R. D. grade, 14 x 20, $5.25; do., 20 x 28, $10.45; Dyffryn, 14 x 20, $5.50; do., 20 x 28, scarce. Wasters—S. T. P. grade, 14 x 20, $5; do., 20 x 28, $9.75; Abercarne grade, 14 x 20, $4.95; do., 20 x 28, $9.62½.

Financial.

The most important event of the week is the decisive defeat in the Senate of a motion to take up the bill to repeal the Sherman silver-purchasing act, a result that at once revives the question of an extra session and suggests a doubt whether anything better would follow. The latest Treasury statements are referred to as showing the urgent need for the suspension of silver purchases. The Government net gold fund is reported at $108,181,713 on January 31, a loss of $13,000,000 during the month, and reducing the surplus to the smallest figure reached since specie resumption in 1879, while gold exports are still in progress. A fact of significance in this connection is the complete falling out of gold receipts for customs duties on the part of New York, something which has never before occurred at this season of the year. Referring to prospects, Treasurer Roberts said: "When the surplus is exhausted the reserve will be drawn upon, as that is what it is there for." One of the largest exporters of gold is reported as saying, if the United States Government would give some positive assurance of preserving a parity between gold and silver, there would be less demand for gold from Europe. The Anti Option bill having passed the Senate, now goes to the House for concurrence in numerous amendments. If the bill becomes a national law Henry Clews says: "The dealing in options will be superseded by the dealing in storehouse certificates in the same way that gold was dealt in during the war period. We can deal in wheat, corn and cotton on just as large a scale as now done in options by adopting the same method. There will, therefore, be no need of either the cotton or grain exchanges disbanding." Despite the uncertain future, business is surprisingly active for this season of the year, as indicated by the large distribution of products to consumers, the activity of the industries, the volume of bank clearings and the very heavy railway movement, some of the trunk lines being compelled to refuse freight from inability to forward it.

The Stock Exchange market was spasmodically active, the heaviest trading and the wildest fluctuations being in distilling and cattle feeding, the recent sharp decline seeming to have been only a partial check on speculation. Richmond Terminal was bought largely on the news that Messrs. Drexel, Morgan & Co. are likely to take up the reorganization. The activity in the Reading New England group was based upon news of the probable early acquisition of the Old Colony system by the Boston & Maine and Reading party, and also by a well-defined rumor respecting the future of the New England road. The decrease in the surplus bank reserve was hardly noticed. On Monday an advance in exchange had a slightly disturbing effect, until it was stated that the rise did not indicate early shipments of gold, when the movement grew steadier and then stronger, with an advance in St. Paul, in Northern Pacific preferred and in Louisville and Nashville as the feature. Gradually the whole market fell off, and selling became more liberal all around on news that the motion to take up the repeal of the Silver Purchase bill had been defeated in the Senate by 22 yeas to 42 nays and the whole list was carried downward. London houses bought some stock on the decline.

United States bonds were quoted as follows:

U. S. 4½s, 1891, extended	100
U. S. 4s, 1907, registered	113¾
U. S. 4s, 1907, coupon	113¾
U. S. currency 6s	107½

The passage by the Senate of the Anti-Option bill has operated to discourage trade in grain, cotton and some other departments. Wheat slightly declined, but rallied at the close on improved cable reports and small India supplies, but receipts for the week were $694,000 larger than in any corresponding week in previous years. The flour market dragged in sympathy. Provisions were rather stronger on a decline of 38 per cent. in Western packing compared with last year. High prices, however, checked demand. In cotton the net decline for the week was about ¼ cent. Spot coffee was active and higher. Raw sugar easier, with considera-

ble sales. Wool active and firmer. India rubber firm. Cottonseed oil excited. Dry-goods jobbers do not expect full activity before Washington's Birthday.

The National Union Bank is the name selected for the new bank in which ex-Secretary Whitney and a number of his New York and Philadelphia friends are said to be interested. The capital will be $1,500,000.

Of last week's exports of specie, $4,008,665 was gold and $537.350 silver. The imports consisted of $20,804 gold and $189,676 silver.

The bank statement was unfavorable, the institutions showing a loss in reserve of $4,489,300, which brings the amount held in excess of legal requirements down to $18,654,000. This is the first decrease reported for a number of weeks. The items show an expansion in loans of $9,730,300. The money market has been easy and rates have ruled low. Money on call has averaged 2 per cent. Time money has been only in fair demand, with rates at 3½ per cent. for 30 to 60 days. Sterling exchange was easy during the early part of the week, but stiffened slightly toward the close. Commercial bills were not plentiful. One of the best features was the strength of the bond market.

Bar silver in London was 38 5/16d per ounce; in New York, 83⅛ per ounce.

Foreign exchange firm and ½ cent higher.

Coal Market.

The Coal trade in all departments is much deranged on account of the active demand and inadequate supplies. The scarcity of Bituminous Coal since January 1 has never been so marked except when there was a general strike some years ago. In fact, the market is bare, so that many dealers attempt nothing beyond the supply of customers and in some instances are glad to get fuel of any description where ever it can be found. The price may be quoted $3 75, alongside. Anthracite of all kinds is in good supply except the steam sizes, which are difficult to get. Pea and Buckwheat really have no market price, but Pea is fairly quoted at $3.50, alongside and Buckwheat $2 50, alongside. The farmer has sold as high as $3.75, depending on the supply of the seller and the wants of the buyer. The combine prices hold good for all sizes, with the exceptions noted, but f.o.b. prices are no criterion, so long as prices at the point of delivery are so variable. Bituminous dealers are behind, even on their contracts.

A combination of all the railroad Coal mines in Western Pennsylvania, to be known as the Western Pennsylvania Coal Company, is being organized. It is said that 100 operators and $15,000,000 capital are already in the pool, the purpose of which is to establish uniform prices, curtail expenses and to enter into competition with the Hocking Valley pool. Only Western consumers are interested. The Pennsylvania Railroad Company is preparing to ship its entire Coal output from Nanticoke and vicinity to the New York market via the Central Railroad of New Jersey to Phillipsburg, and thence over its Belvidere division to Trenton and on to New York. The new route will be 120 miles shorter than the old one.

Four tugboats of the Bee Line Transportation line took 30 Coal-laden barges from Perth Amboy to Providence, the largest tow that ever passed through the Sound.

Anthracite production for the week was 904,668 tons, an increase of 135,294 tons compared with last year, and for the year to date the total tonnage has been 2,751,773 tons, a decrease of 99,714 tons.

The Port Royal Mine at West Newton, Pa., must be flooded to extinguish the fire lately raging.

Anthracite Coal has been shipped both to Genoa and Berlin by the Reading Company, in hopes of opening a permanent foreign market.

New York.

Office of *The Iron Age*, 26-102 Reade street, New York, February 8, 1893.

Pig Iron. — Buying in the territory tributary to this market continues from hand to mouth, buyers showing no disposition to contract for delivery far ahead. The Thomas Iron Company have not yet determined upon the course to be pursued, so far as prices for extended delivery are concerned. The market continues in buyers' favor. We quote Northern brands at $14.75 @ $15.25 for No. 1; $14 @ $14.50 for No. 2, $13 @ 13 50 for Gray Forge, tidewater. Southern Iron, same delivery, $14 75 @ $15 for No. 1; $13 75 @ $14 for No. 2 and No. 1 Soft; $13.25 @ $13.50 for No. 2 Soft; $12.75 @ $13 for Gray Forge.

Ferromanganese and Spiegeleisen. —Current business is very light, with little chance for Foreign Ferro in the Western markets against $56 at Pittsburgh for Domestic. We quote Foreign Ferro nominally $56.50 @ $57, tidewater. and 20 % Spiegeleisen $25.50 @ $26.

Billets and Rods.—The principal event of the week has been the sale of 5000 tons of Foreign Billets to an Eastern Pennsylvania Wire mill, for re-export trade, at private terms. It is understood that there was very sharp competition among importers for the parcels of 3000 tons and 2000 tons into which the order was divided. We quote Steel Billets, tidewater, $24 25 @ $24.75; foreign, $29 @ $29.50; Wire Rods, $32.25 @ $32.75; foreign Wire Rods, $40 @ $40.50. and Swedish Rods, $54.50 @ $56.

Steel Rails.—One Eastern mill is reported to have taken some good orders, aggregating about 20,000 tons, including 4000 tons for export to Cuba. The other works have not booked anything of consequence during the week. The prevailing quotation is $29 at tidewater for standard sections.

Manufactured Iron and Steel.—The Plate orders for Gas Tanks referred to recently prove to have been larger than was then reported, involving as they did about 2000 tons. The Lincoln Safe Deposit building has been taken, the Beams and Structural Material for it, including about 650 tons of Beams, going to a Pittsburgh mill. The contract for the Astor residence has also been awarded. The Manhattan Life building, the largest now on the market, will be given out this week. As yet there has been no stiffening in any of the lines. Exceptionally low figures have been quoted recently in this market on Hoops by Pittsburgh mills, as low as 1 75¢ delivered having been named. Steel Shafting has been offered as low as 1.50¢ on cars at Pittsburgh. We quote Beams at 2.25¢ @ 2.75¢ for small lots and 2¢ @ 2.35¢ for round lots, according to sizes; Angles, 1.85¢ @ 2¢; Sheared Plates, 1.85¢ @ 2.10¢; Tees, 2.10¢ @ 2.30¢; Channels, 2.10¢ @ 2.20¢, on dock. Car Truck Channels, 2¢ @ 2.10¢. Steel Plates are 1.85¢ @ 2¢ for Tank; 2.10¢ @ 2.25¢ for Shell; 2.40¢ @ 2.50¢ for Flange; 2.5¢ @ 2.75¢ for Marine, and 2.60¢ @ 2.80¢ for Fire Box, on dock. Refined Bars are 1.65¢ @ 1.9¢, on dock; Common, 1.55¢ @ 1.60¢. Scrap Axles are quotable at 1.90¢ @ 2.10¢, delivered. Steel Axles, 1.85¢ @ 2¢, and Links and Pins, 1.85¢ @ 2.10¢; Steel Hoops, 1.80¢ @ 1.90¢, delivered.

Track Material.—We quote Spikes, 1.90¢ @ 2¢; Fish Plates, 1.60¢ @ 1.65¢; Track Bolts, square nuts, 2.40¢ @ 2.60¢, and hexagon nuts, 2.70¢ @ 2.80¢, delivered.

Stock Warrants.—Return of stocks &c., by American Pig Iron Storage Warrant Company.

	Tons.
Stock in yard January 1, 1893.....	79,700
Put in yard for 31 days ending January 31, 1893.....	4,800
Total.....	84,500
Withdrawn 31 days ending January 31, 1893.....	4,500
Net stock in yard January 31, 1893.....	80,000

Edward Corning & Co. of Philadelphia, Boston, and 29 Broadway, New York, announce that they have been appointed the agents of the Phœnix Iron Company of Phœnixville, Pa., and of the Paxton Rolling Mills, Harrisburg, Pa., in the territory which embraces the entire State of New York, the whole of New England and the eastern part of New Jersey. The Phœnix Iron Company manufacture a great variety of structural shapes in Iron and Steel, while the Paxton Rolling Mills make Iron and Steel Boiler, Tank, Bridge and Ship Plates. The latter concern have now in operation three trains of rolls—one 72-inch, one 84-inch and one 93-inch wide—and will soon have running a new mill, having rolls 126 inches wide, with shears of a capacity of 134 inch cut. When the new mill is started the Paxton Works will be able to produce from 150 to 200 tons of finished Plates per day. Edward Corning & Co. represent also the Allentown Rolling Mills of Allentown, Pa., and the Lebanon Iron Company of Lebanon, Pa.

British Iron and Metal Markets.

[*Special Cable Dispatch to The Iron Age.*]

LONDON, WEDNESDAY, February 8, 1893.

Scotch Pig Iron.—Warrants have undergone a further advance, prompts selling at up to 46/, chiefly on purchases to cover "short" accounts. Cash warrants are still very closely under control and stocks of Iron in public stores have decreased about 41,000 tons during the week. There has been more business in forward deliveries also and prices for the same have hardened somewhat. Cleveland warrants have not varied much from 35/1½ and Hematites have kept at about 45/9 @ 46/1, with trading moderate in both lines. The monthly returns from the Cleveland district were unfavorable, showing an increase in stocks of 41,480 tons. Export and consumptive demand for Pig Iron continues moderate. Exports of Pig Iron in January, 1893, were 45,000 tons against 40,000 tons during the corresponding month last year.

Pig Tin prices have averaged somewhat higher. Early in the week there was some depression due to the quite heavy selling consequent upon the large shipments from the Straits, but that was offset subsequently by revival of speculative interest prompted by advices that the American duty as prescribed in the McKinley tariff law will likely go into effect in the United States.

The Copper market stiffened somewhat under the influence of more favorable statistics and freer buying on the part of the consumers, whose stocks had become low. Prices subsequently weakened under the influence of speculative realizations. Transactions in furnace material have been limited and smelters appear to be well supplied. It is reported, however, that, after arrival of Anaconda Matte, in completion of old contracts, no more will come forward for six months and considerable decrease in stocks here is antici pated.

For Tin Plate the inquiry has been better and sellers seem more inclined to meet buyers' views. While firmer, prices are nominally unchanged. The new Gwalia Tin Plate Works at Briton Ferry have been started up. Exports of Tin Plate in January, 1893, amounted to 31,000 tons, of which 23,000 tons went to the United States. The total for January last year is 29,000 tons, including 17,000 tons shipped to the United States.

Some holders of Old Iron Rails and Scrap Iron have pressed stock for sale, and prices are rather weaker in consequence.

Scotch Pig Iron.—Prices for all brands remain very steady, but business continues moderate.

No. 1 Coltness,	f.o.b. Glasgow		54 6
No. 1 Summerlee,	"	"	51/
No. 1 Gartsherrie,	"	"	51/6
No. 1 Langloan,	"	"	53/
No. 1 Carnbroe,	"	"	47/
No. 1 Shotts	"	at Leith	53/
No. 1 Glengarnock,	"	Ardrossan	49/6
No. 1 Dalmellington,	"	"	47 6
No. 1 Eglinton,	"	"	46/

Steamer freights, Glasgow to New York, 1/; Liverpool to New York, 7/6.

Cleveland Pig.—A moderate business passing and prices easy, at 35/3, f.o.b. shipping port, for No. 3 Middlesborough.

Bessemer Pig.—Makers offer quite freely at 47/ for West Coast brands, Nos. 1, 2 and 3, f.o.b. shipping port.

Ferromanganese.—The market is dull and prices are rather weak. English 80 % quoted at £11. 7/6, f.o.b. shipping port.

Steel Rails.—Moderate business and former prices asked. Heavy sections quoted at £4, f.o.b. shipping port.

Steel Slabs.—Market very quiet and unchanged. Bessemer quoted at £4, f.o.b. at shipping point.

Steel Billets.—Fair business but prices easy. Bessemer, 2½ x 2½ inches, quoted at £4, f.o.b. shipping point.

Steel Blooms.—Market dull and unchanged. Makers quote £4 for 7 x 7, f.o.b. shipping point.

Old Iron Rails.—Business slow and the market weak. Tees quoted at £2. 7/6 @ £2. 10/ and Double Heads at £2. 10/ @ £2. 12/6, f.o.b.

Scrap Iron.—Demand moderate and prices barely steady. Heavy Wrought Iron quoted at £2, f.o.b.

Manufactured Iron.—No improvement in demand and the market rather weak. We quote, f.o.b. Liverpool:

	£	s.	d.		£	s.	d.
Staff. Ordinary Marked Bars	8	0	0	@	.....		
" Common "	6	5	0	@	6	7	6
Staff. Bl'k Sheet, singles....	7	7	6	@	7	10	0
Welsh Bars (f.o.b. Wales)....	5	7	6	@	5	10	0

Crop Ends.—Market dull and unchanged. Bessemer quoted at £2. 7/6 @ £2. 10/, f.o.b.

Tin Plate.—Prices firm and the demand moderately active. We quote, f.o.b. Liverpool:

IC Charcoal, Alloway grade	13/3 @ 13/9
IC Bessemer Steel, Coke finish	12/0 @ 12/3
IC Siemens " " "	12/3 @ 12/6
IC Coke, B. V. grade 14 x 20	12/0 @ ....
Charcoal Terne, Dean grade	11/9 @ 12/

Pig Tin.—Market quiet at the close but firm. Straits quoted at £92. 2/6 for spot and £92. 15/ for three months' futures.

Copper.—Demand fair at the close and the market steady. Merchant Bars quoted at £45. 12/6 @ £45. 15/, spot, and £46. 2/6 @ £46. 5/ three months' futures. Best selected, £50.

Lead.—Market is slow, and prices are rather weak at £9. 12/6 for Soft Spanish.

Spelter.—Only moderate demand and prices still easy at £17. 5/ for ordinary Silesian.

A Reappraisement of Wire.

The United States General Appraisers have made the following reappraisement on consignment of crucible steel wire from James Royston, Son & Co., Halifax:

	Entered at per cwt.	Advanced to per cwt.
	s. d.	s. d.
No. 14, size 082	18 3	19 3
No. 15, size 072	19 3	20 3
No. 152, size 068	19 3	20 3
No. 12, size 105	16 3	17 3
No. 11, size 115	15 9	16 9
No. 17, size 056	22 3	23 3
No. 19½, size 038	26 3	27 3
No. 20, size 035	29 3	30 3
No. 17½, size 053	22 3	23 3
No. 15½, size 068	19 3	20 3
No. 13¼, size 089	17 3	18 3
No. 9¼, size 140	14 3	15 3
No. 7, size 177	14 3	15 3
No. 6½, size 185	14 3	15 3

Add extra cost packing in casks, 5s per ton. Discount, 4 per cent.

The Metropolitan Elevated Railroad of Chicago will begin its work of active construction in March. The contract with the Carnegie Steel Company covers about 10 miles of bridge work at approximately $3,000,000. The Lake Street Elevated Railroad in the same city has also been placed in the hands of a construction company for completion, and is to be in operation not later than November next. Both of these lines will cross the Chicago River, which presents engineering difficulties, as they will not be permitted to obstruct navigation. The Metropolitan will, it is said, cross on a fixed bridge at a sufficient hight to enable vessels to pass under it, but the Lake Street will erect a superstructure on the swing bridge which now spans the river on that street, making it a two story bridge. Another interesting bit of Western railroad news is the published statement that the electric railroad between Chicago and St. Louis is now in a fair way to be completed, a contract having been made with the Bagnell Brothers of St. Louis and the Garvey Brothers of Memphis to build the entire line, except 26 miles previously given to another contractor. The terms of the new contract provide for the completion of the line within a year from the date of beginning work.

A strike at the Chattanooga Car & Foundry Works resulted last week in an attempt to drive out the non-union men now employed, and many were injured.

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HARDWARE.

Condition of Trade.

OUR ADVICES generally indicate a fair movement of business, which, however, to some extent has been interfered with by the severe weather. January orders were certainly up to the average and February has opened well. Prices are without important change, and there are not as yet many indications of increasing strength. In some lines, however, there is a slight reaction from the extremely low prices which have ruled, and there is among the trade a feeling that if the volume of business for the season is as large as anticipated there must be something of an advance on certain lines.

Chicago.

(By Telegraph.)

The Shelf Hardware trade continues to grow in volume, although the frequent recurrence of cold waves and blizzards throughout the Northwest interferes with it to more or less extent. Jobbers are handling fewer staple goods than usual, the tendency growing among manufacturers to seek this trade direct. Wire Nails and Barb Wire are being shipped from factories in carloads to small dealers with whom manufacturers at one time were not disposed to open accounts. The jobbers here are not opposed to this innovation, but on the contrary mention it with approval, as profits have long been so low that they could hardly afford the room necessary to handle such trade. Jobbers are therefore running more close to straight Hardware, with far more satisfactory results. Prices generally are in pretty good shape and running fairly steady. The most notable exception is that of Wire Cloth, which is unsold by the action of manufacturers themselves, who have quoted practically the same price at all Western points, thus interfering with the natural course of trade and almost compelling jobbers to cut prices to hold their customers. Heavy Hardware is in better demand. Carriage goods are moving particularly well, wagon makers are busy and manufacturing consumers generally are taking good quantities of Iron and Steel.

St. Louis.

(By Telegraph.)

The extreme cold weather prevailing throughout the entire West and Northwest has greatly retarded business, and complaints from the trade concerning the non-arrival of goods have been quite frequent. General trade is in good shape, however, and notwithstanding the cold weather, winter goods are giving way to spring and summer stock. Refrigerators, Screen Doors and Windows are taking the place of Base Burners, Coal Hods and Gas Heating Stoves. Skates continue to be in good demand and it is no unusual experience to have to turn away trade on account of entire absence of stock. Shelf Hardware continues in good demand and Heavy Hardware also shows signs of improvement. Prices are practically unchanged, although with the increased trade so generally expected it is only reasonable to look for early improvement.

The Consolidated Steel & Wire Company of St. Louis have advanced prices. Painted Barb Wire is quoted at $2.25: Galvanized, $2.65; carload lots, 5 cents per hundredweight less; Steel Wire Nails, $1.70 rate; Steel Bale Ties, single loop, adjustable, 75 % discount list.

Notes on Prices.

Wire Nails.—The last few weeks have witnessed the placing of many orders for Wire Nails, the trade taking advantage of the low prices ruling. This fact, together with the narrow margin of profit, has had the effect of giving the market a slightly better tone, and manufacturers are unwilling to quote prices which they made a few weeks ago. A fair quotation for carload lots at mill is $1.40, a price below which manufacturers are reluctant to accept orders. Small lots from store in New York are quoted at $1.75.

At a meeting of Wire Nail manufacturers, held in Chicago, February 3, the following resolution was offered and unanimously adopted:

Whereas, it has become the prevailing custom for manufacturers of Wire Nails to make sales and contracts so worded, and with such condition in favor of the buyer, that they are simply options, enabling the buyer to control the product of the manufacturer. Therefore be it

Resolved, That on and after this date no sales or contracts shall be made except for immediate specifications, or for a definite tonnage to be taken within a definite time, and subject to no guarantee nor readjustment of any sort, thus holding the buyer to his part of the agreement as well as the manufacturer:

Resolved, That this shall be published as the uniform action of all manufacturers of Wire Nails.

The following are the names of the manufacturers who unite in taking the above action:

HP Nail Company, Cleveland, Ohio.
Baackes Wire Nail Company, Cleveland, Ohio.
Oliver & Roberts Wire Company, Pittsburgh, Pa.
Consolidated Steel & Wire Company, Chicago, Ill.
Salem Wire Nail Company, Salem, Ohio.
Newcastle Wire Nail Company, Newcastle, Pa.
A. R. Whitney & Co., New York, N. Y.
New Philadelphia Wire Nail Company, New Philadelphia, Ohio.
California Wire Works, San Francisco.
American Wire Nail Company, Anderson, Ind.
Arrow Company, Anderson, Ind.

Action was also taken in regard to price, and the meeting agreed on $1.40, Pittsburgh, and $1.42½, Cleveland. As to stocks on hand and contracts which manufacturers now have, as far as could be ascertained at this meeting, there were nearly 50,000 kegs more Nails sold than on hand. In the aggregate there were about 225,000 kegs of Nails in stocks and 275,000 kegs on contracts.

Chicago, by Telegraph.—Manufacturers report a fair movement in Wire Nails, with increasing inquiries. They are gradually absorbing a great deal of the business which has hitherto been controlled by jobbers, and consequently do a larger proportion of the trade in single carloads and in mixed carloads with Barbed Wire. Prices were advanced at a meeting of the trade here on the 3d inst., and quotations are now made at $1.57½, Chicago, on all factory lots. The manufacturers not present at the meeting have since sent in their ideas of the action taken, the only criticism made being the very slight advance, as a higher price was wanted. This advance, however, stands a better chance of being maintained than if it was higher. Jobbers quote $1.60 to $1.65 from stock.

Cut Nails.—The market for Cut Nails has been somewhat affected by the announcement of the new price-list which was published in our last issue and which is given in a convenient form for reference in another column, inasmuch as it introduces a certain element of uncertainty owing to the fact that it is adopted by some manufacturers and not as yet by all, while the trade are unfamiliar with it and have scarcely had opportunity to consider it in all its bearings. The Eastern manufacturers with substantial unanimity have adopted it and are making it the basis for quotations. There has been, however, little business done on the new basis. The price from store in New York is $1 off list, but there is as yet no definite quotation as to the price for lots at mill, manufacturers being conservative in regard to making a price. The Western mills have not adopted the new list nearly as generally as the Eastern mills and are waiting to see how the matter is regarded by the trade. There is, however, a disposition to regard the new list favorably, and approval is expressed of the object sought to be gained—namely, the doing away with the system of averages. Expressions from some of the large dealers are in the main satisfactory to the new card, but some would prefer a card similar to the old one on which a base price should be quoted on 10d or 60d instead of having a list with a discount, as is now proposed. In another column reference is made to the views of the trade on this subject, and a comparison is also made as to the price of Nails on the old and new basis respectively.

Chicago, by Telegraph.—The new Cut Nail price-list has not yet been used in this market as a basis of quotations so far as the writer is able to learn. Manufacturers are not believed to be adverse to it, but are waiting to ascertain how it is being accepted further East. They continue to quote on the basis of $1.60 for 30-cent average and report an unexpectedly good trade considering the inclemency of the weather, outdoor work having been almost suspended since the third week of

December. Jobbers quote $1.65 to $1.70 from stock.

Barb Wire.—The Barb Wire Market is in a somewhat better condition, and manufacturers have withdrawn their extreme quotations. Prices are represented by the quotation of $2.40 to $2.45 for carload lots of Four Point Galvanized. There is also an improvement in the demand and the volume of business is referred to as good for this time of the year. Small lots from store in New York are held at $3.10 for Four Point Galvanized, or $3 for carload lots.

Chicago, by Telegraph.—The largest manufacturers are understood to have agreed that carload prices of Painted shall not be under $2.20, Chicago. Smaller concerns have agreed to support this price, but desired the rate made $2.25. Orders continue to improve from day to day. A shortage of Rods is also beginning to be felt by the Wire trade, owing to the stoppage of two or more mills. These circumstances favor the attempt to get an advance. Jobbers here have changed their standard of quoting Barb Wire and take Galvanized, which constitutes about three-fourths of the trade. They quote it from stock at $2.60 @ $2.65 with 40 cents off for Painted.

Braces.—M. W. Robinson Company, 79 Chambers street, New York, issue a revised price-list of their Rose & Johnson and Davis patent Bit Braces. A reduction of $3 has been made in the list prices of the plain Braces and of $6 on the Ratchet Braces. The revised list prices of the Rose & Johnson Patent Bit Braces are as follows, subject to a discount of 50 and 10 per cent.:

Without Ratchet.

No.		Per dozen.
107	7 inch sweep	$21.00
108	8 "	24.00
110	10 "	27.00
112	12 "	30.00
114	14 "	33.00

With Bolen's Patent Ratchet.

No.		Per dozen.
208	8 inch sweep	$33.00
210	10 "	36.00
212	12 "	39.00
214	14 "	42.00

The following are the list prices of the Davis Patent Bit Braces, which are subject to a discount of 50 and 10 and 5 per cent.

Without Ratchet.

No.		Per doz.
307	7 inch sweep	$21.00
308	8 " "	24.00
310	10 " "	27.00
312	12 " "	30.00
314	14 " "	33.00

With Bolen's Patent Ratchet.

No.		Per doz.
408	8 inch sweep	$33.00
410	10 " "	36.00
412	12 " "	39.00
414	14 " "	42.00

Saws.—E. C. Atkins & Co., Indianapolis, Ind., issue revised price-lists of their Cross-Cut and One-Man Saws, Saw Tools and Handles and Wood Saws and Blades. Their list of Circular Saws and Mill, Mulay and Drag Saws is dated November 16, 1892. Their revised discounts are as follows:

	Per cent.
Circular Saws	50
Mill, Mulay and Drag Saws	50
Cross-Cut Saws	40
One-Man Saws	40
Wood Saws	40
Saw Handles	40
Saw Tools	40

The following is their revised list of Handles, Saw Tools, &c., which is subject to a discount of 40 per cent.:

Handles.

		Per pair.
No. 1.	Loop	$0.48
No. 2.	Reversible	.30
No. 3.	Loop	.30
No. 4.	Reversible	.20
No. 6.	Loop	.20
No. 7		.18

Saw Tools.

	Per dozen.
Perfection	$20.00
Excelsior	10.00
Giant	6 50
Dexter	6.50

Saw Sets.

	Per dozen.
Criterion No. 1, for Cross-Cut Saws	$10.00
Adjustable, for Cross-Cut Saws	10.00
Setting Blocks, for Cross-Cut Saws	3.50
Raker Tooth Gauges, Single	.80
Raker Tooth Gauges, Double	1.20

Lawn Mowers.—The trade in Lawn Mowers continues active and it is evident that large quantities will be sold during the present year. Prices, however, continue low and irregular and have a wide range, according to the standing and quality of the different machines. The condition of business in this line is reflected in advices received from manufacturers, one of whom writes as follows:

Altogether the prospects for the coming season are very promising. Up to the present time the demand is far in excess of last year's business, and with weather favorable to this trade the business in these goods for the year will be very large.

Another manufacturer, alluding to the very general demand for cheap Mowers, writes:

The large volume of the trade on Lawn Mowers is supplied by the low-grade cheap Mowers, what we term "toy machines," but there is a substantial demand for first-class Lawn Mowers, particularly for use in parks, cemeteries and large lawns, and also from other customers who want the best Mower in the market.

Referring to the advantages of handling good Mowers and the demoralization in prices of cheap grades, we have the following from another manufacturer:

A first-class, high-grade Mower insures a feeling of security among the trade that handle it. The prices on all grades of Mowers throughout the country are being reduced year by year until little is left for the manufacturer. There will be a survival of the fittest some day.

An intimation that the manufacturers are responsible for this condition of things and a suggestion that more conservative action on their part would be advantageous are given in the following letter:

The greatest trouble with the Lawn Mower trade now appears to be the prices at which so many factories are selling. In fact, it looks to us as though the price of Lawn Mowers had pretty much gone to pieces. This strikes us as being very foolish. All the factories might just as well make a fair profit on them as to sell them without profit, and we should be glad if you were able to encourage the various Lawn Mower builders to make the prices fair, so that we can all make a little money, instead of so many selling without any profit, and compelling us all to do the same thing. This is unnatural, and should be changed.

Axes.—In mentioning the prices of the Axes put on the market by the Standard Axe & Tool Works, Ridgway, Pa., in our issue January 19, the price of their Standard Double Bit Axe was erroneously given as $8.50 per dozen. The trade will please note that the correct price on this Axe is $10.50.

John Chatillon & Sons.—Under date February 1, John Chatillon & Sons, 85, 87 and 89 Cliff street, New York, have issued the following revised discount sheet applying to their price-list January 1, 1890 (1893 edition). It will be of interest as indicating their extensive line of Scales, Balances, Butchers' Tools and Machinery and other goods, and the prices at which they are offered. Their discount sheet is as follows, terms net cash, 30 days:

	Per cent.
Sportsman's Balances	25
Silk Balances	40
Letter Balances	40
Postal and Coin Scales	40
Combination Letter Balances	30
Coin Detectors	50
Light Spring Balances, Nos. 2000 25 30 Per doz. 80c. 9 c. 1.75 Net	
Light Spring Balances, except Nos. 2000, 20, 30	40
Round Spring Balances, Class A	40
Straight Spring Balances, Class A, 1	40
" " " Class A, 2	40
Ice Balances, Class B	50 & 10
Circular Spring Balances. Class C	50 & 10
" " " Extra Large, Large and Medium Dial, Class D	35
Circular Spring Balances, Extra Heavy, Class E	25
Circular Spring Balances, Folding Pans. Class F	25
Circular Warehouse Balances	25
" Coal Balances	25
Leather Inspectors' Balances	10
Lifting Machines	10
Chair Balances	10
Spring Platform Scales	10
Punching Machines	10
Board Scales	10
Dynamometers	25
Yarn and Silk Testers	25
Favorite Family Scales	40
Eureka Scales	30
Counter Scales	25
Market Scales	40
Spring Platform Scales	20
These Scales are now made with leveling Screws, and not with wheels, as illustrated. Change List on No. 541 to $40.	
Confection Scales	50
Twine Boxes, Iron, to Hang	65
" " Iron, to Stand	45
" " Brass	50
Candy Trays	50
" Scoops, Brass	50
" " Nickel Plated	50
List....No. 1 2 Per doz. $12.00 $13.50	
Bag Fillers	50
Hand Scoops, Tin	50
" " Brass	50
" " Nickel Plated	50
List No...00 0 1 2 3 4 Per doz ,$9.50 11.50 14.00 18.50 26.00 31.00	
Sugar Scoops, Steel Blade	40
Change List to: No. 3B 4B 5B 6B Per doz. $5.00 6.00 7.00 8.00	
Sugar Scoops, Seamless	70
Change List to: No. 163 164 165 166 167 Per doz. $17.00 22.00 28.00 34.00 40.00	
Grocers' Scoops	70
Family and Tea Scoops	70
Thumb and Ring Handle Scoops	70
Measures	40
Funnels	40
Iron Nest Weights	50
Zinc Nest Weights	40
Cased Brass Nest Weights	40
Solid Brass Nest Weights	40
Ring Weights	50
Iron Handle Weights	40
Trip Scales	50
Chatillon's Union Scales	50
" Grocers' Scales	40
Grocers' Scales, C Grade	50
Union Scales, C Grade	50
Standard Even Balance Scales	40
Tea Scales and Hatch Scales	50
Platform Scales	40
" " C Grade	40
Pounds..400 600 800 1000 1200 1500 List....$17.00 19.00 21.00 26 00 28.00 31.00	
Equal Arm Beams	50
Bakers' Dough Scales	50
Boston Market Beams	33⅓
Iron Market Beams	50

Scale Beams, Japanned, No. 1.....40
" " " No. 2.....50
" " " Plantation.....40
" " Weighmasters'.....33⅓
" " Cotton Weighers'.....33⅓
" " Brass.....33⅓
Poises.....50
Frames, Hooks and Bottoms.....33⅓
Trucks.....40
Molasses and Oil Cans.....20
Show and Floor Canisters.....20
Tea Canisters.....20
Polishing Paste and Powder.....50
Glass Polish.....50
Swift's Coffee and Spice Mills.....40
" Post and Stand Mills.....40
Chadborn's Smoked Beef Cutters.....33⅓
Beef Splitting Saws.....30
Butchers' Saws, Lawson's Detachable Blades. 30
Butchers' Saws, Worrall's.....20
" " H. W. Peace & Co.'s.....30
" " "Chatillon," same list as H. W. Peace & Co.'s.....30
Wire Block Brushes.....60

Change list as follows:

No. 0, 5 x 12 Rows, with Handle, per doz. $7.50
" 1, 4 x 12 " " " " 6.00
" 2, 3 x 12 " " " " 4.80
" 3, 3 x 12 " no Handle, " 4.00

Butchers' Steels, Foster Bros. See our Special List of Foster Bros.' Butchers' Cutlery.

Butchers' Steels, J. Wilson's.....25
" Sticking and Skinning Knives, J. Wilson's.....25
Sabatier Cooks' Knives.....25
" " " "K" Brand.....30

Inches	4	5	6	7	8
List, per doz.	$3 50	4.25	5.00	5.70	6.00
Inches	9	10	11	12	14
List, per doz.	$6.60	7.15	8.20	9.20	17.00

Slicers and Slicer Forks.....50
Oyster Blocks.....50
Fish Shears.....50
Fish Scalers. No 2.....60
Spruill's Block Scrapers.....40
Patent Steel Hog Scrapers.....40
Butchers' Block Scrapers, No. 1.....50
" " " " 3.....50
Hog Scrapers, No. 1.....50
Grindstones, Family.....15
" " New York Pattern.....20
" " Ohio Pattern.....10
American Meat Choppers.....30
Great American Meat Cutters.....30
Pork Fat Cutting Machines.....20
Meat Rockers.....20
Sausage Stuffers.....25
Lard Presses (page 193).....40
" Presses (page 195).....25
" Coolers.....33⅓
Portable Smoke Houses.....20
Ham Pumps.....40
Saltpetre Tongs.....30
Salinometers.....60
Butter, Cheese and Tallow Tryers.....20
Portable Furnaces and Caldrons.....30
Lard Stirrers and Paddles.....30
" Swimmers and Skimmers.....40
" Dippers.....40
Pole Hooks.....40
Selecting Hooks.....40
Flesh Hooks and Forks.....40
Hog Hooks.....40
Butchers' Block Pins.....50
" Meat Skewers.....40
Meat Hooks.....75
Poultry Hooks and Rings.....40
Hooks for Scale Beams.....40
Brackets and Stands for Spring Balances...25
Ice Tongs.....50
Ice Axes and Hatchets.....50
D Handle Ice Cutters.....60
Ice Saws.....25
" Cutting Machines.....25
Alarm Tills.....40
Door Springs.....25
" Spring Brackets.....25

The discount sheet also directs attention to their special list of Foster Brothers' Butchers' Cutlery.

Indurated Fiberware.—As we have already announced, the catalogue of Indurated Fiberware, January 25, 1893, for the sale of which Cordley & Hayes, 173 and 175 Duane street, New York, are sole agents, gives reduced list prices on many of their goods. The revised list is given below, and is subject to a discount of 25 per cent.:

	Per dozen.
Star Pails, 12-quart	$4.20
Buggy Pails, 6-quart	3.60
Ladies or Weaver's Pail, 6-quart	3.60
Deep Fire Pail, 10 quart	4.80
Deck or Masons' Pail, 12-quart	4.80
Railway or Factory Pail, 14-quart	5.40
Milk or Dairy Pail, 14-quart	5.40
Round Bottom Fire Pail, 12-quart	5.40
Stable Pails, 14-quart	$6.00
" " 16 "	7.20
" " 18 "	8.40
" " 20 "	9.00
Pail Covers, 2 dozen in crate	3.00
Wash Tubs, No. 0, 13 inches deep, 23½ inches diameter	$21.00
Wash Tubs, No. 1, 12 inches deep, 20½ inches diameter	18.00
Wash Tubs, No. 2, 10½ inches deep, 19 inches diameter	16.00
Wash Tubs, No. 3, 9½ inches deep, 18 inches diameter	14.00
	Per nest.
Nested, No. 0 Nest, one each 0, 1, 2, 3 Tubs	$5.75
Nested, No. 1 Nest, one each 1, 2, 3 Tubs.	4.00
" " 2 " " 0, 1, 2 " .	4.60
Nested, No. 6 Nest, one each 0, 1, 2 Tubs, 1, 2, 3, 4 Keelers	6.65
Nested, No. 8 Nest, one each 0, 1, 2, 3 Tubs, 1, 2, 3, 4 Keelers	8.30
	Per doz
Sitz Tubs, No. 0, 23½ inches diameter.	$24.00
" " 1, 20½ " " ..	21.00
" " 2, 19 " " ..	18.00

¼ dozen in crate, or nested one of each size.

Keelers, No. A, 7 inches deep, 20 inches diameter	$10.80
Keelers, No. B, 7 inches deep, 18½ inches diameter	10.20
Keelers, No. C, 7 inches deep, 17½ inches diameter	9.60
Keelers, No. 1, 6½ inches deep, 17 inches diameter	9.00
Keelers, No. 2, 6 inches deep, 15 inches diameter	8.40
Keelers, No. 3, 5 inches deep, 13 inches diameter	7.20
Keelers, No. 4, 4 inches deep, 12 inches diameter	6 00

A, B, C, ½ dozen in crate. 1, 2, 3, 4, 1 dozen in crate.

	Per nest.
Nested, No. A Nest, one each A, B, C (2 nests in crate)	$2.55
Nested, No. 1 Nest, one each 1, 2, 3, 4 (3 nests in crate)	2.55
Nested, No. 3 Nest, one each 1, 2, 3 (3 nests in crate)	2.05
	Per doz.
Wash Basins, 12½ inches diameter, with rings	$2.80
Dish Pans, 14 quart, 5 inches deep, 16½ inches diameter, half dozen in crate	$7.80
Knife Cleaners, 5½ inches deep, 7½ inches diameter, 1 dozen in crate	$3.60
Butter or Bread Bowls, 15-inch, one dozen in crate	$4.80
Butter or Bread Bowls, 17-inch, one dozen in crate	6.00
Butter or Bread Bowls, 19-inch	7.20
	Per nest.
Nested, 4 nests in crate	$1.50
	Per doz.
Milk or Vegetable Pans	$3.00
Chamber Pails, No. 1, 9 inches deep	10.20
Slop Pails, 11 inches deep	8.40
Slop Jars, No. 2, 12 inches deep	10.20

Spittoons.

Hight outside.	Diameter outside.	Per doz.
No. 0, 8 inches,	16 inches	$10.00
" 1, 5½ "	12 "	6 60
" 2, 5½ "	11½ "	6.00
" 3, 4½ "	9⅞ "	5.40
		Per nest.
Nested, Nos. 1, 2 and 3 (4 nests to crate)		$1.50

No. 0, one-third dozen in crate; others, one-half dozen.

Spittoon Tops, No. 0, one-third dozen in crate	$4.80
Spittoon Tops, No. 1, one dozen in crate.	3.20
" " " 2, one " " "	3.00
" " " 3, one " " "	2.80
	Per doz.
Slop Jar and Spittoon Mats, 21 inches diameter	$6 60
Slop Jar and Spittoon Mats, 17 inches diameter	4.80
Trays, 11 inches in diameter, one dozen in crate	2.40
Champagne Coolers, 9½ inches deep, 6 inches diameter, half dozen in crate	4.80
Champagne Coolers, style A	6.00

Refrigerator Drips.

Hight outside.	Diameter outside.	Per doz.
No. 0, 6 inches,	23 inches	$12.00
" A, 6 "	20 "	10.80
" B, 6 "	19 "	10.20
" C, 6 "	18 "	9.60
" 1, 6 "	17½ "	9.00
" 2, 6 "	16 "	8.40
" 3, 6 "	13½ "	7.20
" 4, 5 "	12 "	6.00

First four sizes, half dozen in crate; others one dozen.

	Per doz.
Florists' Vases, No. 0, 8 inches diameter, 13 inches deep	$4.80
Florists' Vases, No. 1, 5½ inches diameter, 10 inches deep	4.20
Florists' Vases, No. 2, 4½ inches diameter, 9 inches deep	3.60
Florists' Vases, No. 3, 4 inches diameter, 6 inches deep	3.00
Florists' Vases, No. 4, 3 inches diameter, 4½ inches deep	2.40

Half dozen in crate.

Ice water bucket, 5 gallons capacity, extreme diameter outside, 14 inches; extreme hight outside, 14 inches, crated singly.....$24

Handy Dishes.

Plain, or with handles or with one brass ring.

Deep.	Diameter.	Plain. Per doz.	With ring or handles. Per doz.
No. 1 5½ in.	10¼ in.	$3.60	$4 00
" 2 5¼ in.	10 in.	3.20	3.60
" 3 4¼ in.	9¾ in.	3.00	3.55
" 4 3⅝ in.	8 in.	2.80	....

One dozen in crate.

	Per doz.
Mill Dippers, for handling dyes, etc. Two quart	$5.40
One quart	4.80

Liquid Measures.

	Per doz.
Gallon Measures	$6.00
Two-quart "	4.80
One-quart "	4.20
Pint "	3.00
No. 2 Funnel	3.00

Half dozen in crate.

	Per nest.
Gallon nest, complete set of 5 pieces	$1.70
Two-quart nest, set of 4 pieces, including all but gallon measure	1.20
	Per doz.
No. 1 Funnel. Gallon size. 7½ inches across at mouth, will go into 1¼-inch bunghole. Half dozen in crate	$3.60
Store Show Tubs. No. 0, 13 inches deep, 23½ inches diameter	$21 00
No. 1 12 inches deep, 20½ inches diameter	18.00
No. 2 10½ inches deep, 19 inches diameter	16.00

Quarter dozen in crate or nested.

Pickle Tubs, for grocers' use. One size, 2 gallons	$3.60

Glass.—The National Window Glass Company is an assured fact, arrangements having been completed and the organization formed last week at Chicago. The officers of the new concern, as selected in Milwaukee and incorporated under the laws of Wisconsin, are J. A. Chambers, Pittsburgh, president; T. F. Hart, Muncie, Ind., vice-president; Geo. F. Kimball, Chicago, treasurer; F. H. Fox, Chicago, secretary. Among the manufacturers on the Board of Directors are T. F. Hart, Muncie, Ind.; William Loeffler, Pittsburgh; N. T. Depauw, New Albany; H. Sellers McKee, Pittsburgh; J. A. Chambers, Pittsburgh; T. D. Cattlin, Ottawa, Ill.; A. L. Conger, Akron, O. The jobbers selected as directors are G. F. Kimball, M. Campbell, Kansas City; Charles Baumbach, Milwaukee; Albert Drey, St. Louis; E. W. Palmer, Cleveland, and William Reid, Detroit.

Fully 93 per cent. of the manufacturers and jobbers of American Window Glass are included in the company, and the capital represented exceeds $50,000,000. The company are incorporated under the laws of Wisconsin with a capital of $200,000, which has been subscribed to by manufacturers of Pittsburgh, Wheeling, Ohio, Indiana and other Western States, also by jobbers in different parts of the country. A forfeiture clause has been inserted in this new agreement by which each manufacturer who joins the company must post a forfeit of $100 for each pot in his factory. Jobbers were called upon to subscribe in proportion to their stock, the money deposited, otherwise

capital stock subscribed, being held as forfeit. It is understood that over $200,000 in forfeits has been posted by members of the company. This money has been paid to the treasurer of the company, and it is agreed that the forfeits shall lapse into the general treasury whenever a manufacturer or jobber is found cutting prices. It is the purpose of the company to control and maintain prices, and the company will fix prices and negotiate terms with organized labor; but the management of plants and sale of Glass will be left to the factory owners. The company will not have power to order any plant or plants to cease operations at any time that the condition of the market might seem to warrant closing down. New prices were adopted at the meeting, to take effect immediately, applying to the present list, as follows: Two thousand boxes in one order and at one shipment, 80 and 10 and 10 per cent. discount; carloads of 400 boxes, 80 and 15 per cent. discount; 100 boxes or over, 80 and 10 per cent. discount; less than 100 boxes, 80 and 5 per cent. discount. A committee was appointed at the same meeting to revise the Glass list. The volume of business in American Window Glass shows no increase since our last report. French Window Glass is also quiet and price weak. It is reported that imported Glass can be bought at from 80 per cent. discount to 80 and 5 per cent. discount. American Plate Glass is unchanged in price and is in limited demand. Present quotations are as follows:

American Window Glass, 2000 boxes at one time, 80 and 10 and 10 per cent. discount; carloads, 400 boxes, 80 and 15 per cent. discount; 100 boxes or over 80 and 10 per cent. discount; less than 100 boxes, 80 and 5 per cent. discount. French Window Glass, 75 and 10 and 5 per cent. discount. American Plate ranges in price from 60 and 2½ per cent. discount to 60 and 5. Imported Plate Glass, 60 per cent. discount to 60 and 10 and 5 per cent. discount.

THE ATLAS TACK CORPORATION in this city, finding their quarters at 116 Chambers street inadequate, have leased and are now occupying a portion of the building 31 Warren street, running through to 31 Murray street. They have the street floor and two basements, each being 175 x 26 feet. The office and salesroom will be on the Warren street end, the receiving and shipping of goods being done at the Murray street entrance. Their largely increased capacity will enable them to carry a much greater assortment and stock.

The Price-List on Cut Nails.

From the Merchant's Point of View.

THE MATTER of determining the advantage and disadvantage of the price-list of Cut Nails is a somewhat complicated one, and merchants are in many cases unwilling to express themselves on the question. A leading jobbing house in the East refer to the list as a good thing for the manufacturers and are disposed to regard it favorably, although they feel it will lessen the jobbers' profit, but as it saves the annoyance of obtaining a memorandum of sizes before making quotations they are, on the whole, pleased to have it adopted. A jobbing house in Western New York say:

While we have looked over the new price-list, we can hardly as yet form a correct opinion as to how it will act. We believe it will take some time to educate our trade to its use, but we are inclined to believe that after we become familiar with it it will prove entirely satisfactory.

One of the leading jobbing houses of the country state that while they may have a positive opinion on the subject after they have had an opportunity to test the price-list practically, they can at present only speak generally. They regard a change in the card as a good thing, because the Cut-Nail trade has for a long time been in a rut, and almost anything in the way of a change is preferable to the existing condition of things, even if the benefits derived should eventually prove to be only slight.

A prominent Western jobbing house criticise the classification adopted, which puts all heavy Nails from 10d to 60d at the same price. This is an arrangement which they think will be found in practice to work badly. At the same time they are strongly in favor of the adoption of a new price-list, which will do away with the very objectionable practice of quoting prices based on averages.

A leading Chicago jobbing concern declare that they are not strongly opposed to the old card, and reserve an opinion as to the new one until they find that it will give the jobber some advantages which he does not now possess. They state that they have not experienced any special annoyance from the practice of selling Cut Nails on averages.

Another prominent Chicago jobbing house advise us that they do not favor the new price-list, because it attempts to establish a special price on each size of Nails. This, they think, will result in buyers splitting up their orders among sellers whenever there is close competition for business and parties are asked to submit prices. In order to conduct business under the new price-list, it will be necessary for buyers to submit their specifications in advance so that prices may be made intelligently. Nevertheless, they hope the manufacturers may be able to do something to put the Nail trade in better condition than has so long prevailed.

In order to illustrate the bearing of the new price-list on the price of Nails we give below the cost of an assorted carload on the old and the new basis. It is obvious that the price will depend on the discount taken from the list, and it is as yet undetermined what this discount will be. In the calculation which follows the price is supposed to be discount $1.25 on a carload lot, f.o.b., but some manufacturers express the opinion that the discount on such lots will be $1.20. The following is the cost of an assortment of 250 kegs at $1.40 basis, f.o.b. mill, upon a 35-cent average:

3d Fine,	10 kegs	$1 50 extra		$15.00
4d Flat,	5 "	....	.60	3.00
4d Common,	5 "	....	.60	3.00
5d "	5 "	....	.60	3.00
6d "	25 "	....	.40	10.00
8d "	60 "	....	.25	15.00
10d "	70 "	....	.20	14.00
12d "	30 "	....	.15	4.50
20d "	10 "	....	.15	1.50
40d "	5 "	....	.05	.25
8d Finishing,	10 "	....	1.00	10.00
10d "	10 "	....	.85	8.50
60d Common,	5 "	....	....	....
	250 "	at	1.40 basis	350.00
				$437.75

The following is the cost of the same assortment purchased at a discount of $1.25 from list, January 31, 1893, f.o.b., mill:

3d Fine,	10 kegs	$4.00	$40.00
4d Flat,	5 "	3.35	16.75
4d Common,	5 "	3 35	16.75
5d "	5 "	3.35	16.75
6d "	25 "	3.20	80.00
8d "	60 "	3.10	186.00
10d "	70 "	3.00	210.00
12d "	30 "	3.00	90.00
20d "	10 "	3.00	30.00
40d "	5 "	3.00	15.00
8d Finishing,	10 "	3.20	32.00
10d "	10 "	3.10	31.00
60d Common,	5 "	3.00	15.00
	250		$779.25
250 kegs at $1.25 per keg.			312.50
			$466.75

It will thus be seen that on the assortment named above, which is perhaps a fairly representative one, the Nails under

National Price-List of Cut Nails.

January 31, 1893.

Subject to Discount $.... Per Keg on All Sizes Alike.

	2	3	4	5	6	7	8	9	10	12	16	20	30	40	50	60d
Common, Fence, Heavy Brads, Sheathing	$3.75	3.55	3.35	3.35	3.20	3.20	3.10	3.10	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Fine Blued and Fine Finishing	4.35	4.00	3.60	3.60	3.45	3.45	3.30	3 30	3.20	3.20	3.20	3.20	....	....	....	....
Casing, Flooring, Box, Slating and Eastern Finishing	4.25	3.65	3.50	3.50	3.35	3.35	3.20	3.20	3.10	3.10	3.10	3.10	3.10	3.10	....	....
Tobacco Box Nails, lining	....	....	3.35	3.35	3.20	3.20	....	....	....	....	....	....	....	....	....	....
Tobacco Mfgs. Box Nails, caddy	....	4.00	3.75	3.75	....	....	....	....	....	....	....	....	....	....	....	....
Warehouse Cooper and Tobacco	....	....	3.65	3.65	3.50	3.50	3.35	3.35	3.25	....	....	....	....	....	....	....

Cut Spikes, all sizes, $3.10.

Inch	¾	⅞	1	1 1/16	1⅛	1¼	1⅜	1½	1¾	2	2¼	2½	2¾	3	3½	4
Clinch	....	....	....	....	....	....	....	3.90	3.90	3.75	3.75	3.60	3.60	3.50	3.50	3.50
Light Barrel and Lining	4.25	4.00	3.75	3.75	3.50	3.50	3.40	3.40	....	....	....	....	....	....	....	....
Barrel	4.15	3.90	3.65	3.65	3.40	3.40	3.30	3.30	....	....	....	....	....	....	....	....

10 cents extra for each half keg.

the new list at the discount named cost $29 more than on the former basis.

The matter is regarded from the retailer's standpoint in the following letter:

In looking over the national price-list of Cut Nails from a retailer's point of view we are pleased with the idea of buying Nails at a discount—or, more properly, at a rebate—as this plan is right in line with buying other Hardware, so it will not take long for us to become educated to the new price-list. It will also be convenient in selling a bill of Nails, as we can hand the price-list to a customer and say, "We will sell you all the Nails you want at 25 cents off of the prices." It does away, also, with the trouble of figuring averages, which we never could remember about from the time we bought one carload until we needed another. Then, too, at the same discount each kind of Nail will cost us the same, whether bought now or in six months. With this price-list there will be no temptation to purchase a lot of fancy Nails, which locks up capital, to secure a high average and low prices on a carload. So much for the advantages. The manufacturers claim that the price-list is honestly figured on the actual cost of manufacturing each size, and that the arrrangement has proved such that averages cannot be figured and make money. We are not prepared to say in so short a time how the new prices are going to work with our customers. The 8d and 10d Nails, which constitute two-thirds of the Nails sold, are higher than before; and whether the fact that fancy Nails are lower will console them for paying more for the larger quantity of Nails used or not, remains to be seen. Then those of us who have a quantity of fancy sizes, enough to last us for a year or two, have to pay more for the common Nails to work the fancy sizes off. As far as we have compared the old card and the new price-list we find that on the new basis prices will be lower on a former low average, and higher on a former high average. We think on the whole that a change is desirable, and trust that this may be found practical.

THE Hardware Club OF NEW YORK.

THE ACCESSIONS to the membership of the Hardware Club being sufficient to insure the success of the project, the officers are concluding negotiations for the rental for a term of years of premises in the Postal Telegraph building, corner Broadway and Murray street, and it is regarded as practically settled that the club will occupy them on the completion of the building. The number of members who have connected themselves with the club is regarded as sufficient to carry the club financially, while the fact that the largest and most representative houses are identified with it gives promise of its success and influence. It is a matter of special satisfaction that the club includes the leading houses in the trade located in New York and has among its non-resident membership many representatives of jobbing and manufacturing interests in other places. It is expected that there will be a large development of the non-resident membership, and that the club will be in a large measure representative of the Hardware and Metal interests of the country.

According to the provisions of the constitution of the club, the annual meeting will be held on the third Saturday of March, at which time 15 members will be elected, which shall constitute the board of governors.

A committee consisting of
DAVID WILLIAMS,
H. C. MARSHALL,
V. P. HUMASON,
JOHN H. GRAHAM,
U. T. HUNGERFORD,
was elected at a meeting last week to make such nominations in accordance with the provisions of the Constitution, article 4, section 2.

SEC. 2.—A committee to nominate governors for election at the annual meeting shall be chosen by ballot by the Board of Governors at a regular meeting a month preceding the annual meeting. Such committee shall consist of five members, not governors, and they shall nominate in writing members who have consented to serve as governors to be elected at the annual meeting, and at least ten days before the annual meeting shall place the names of such nominees on the bulletin board, and shall report the nominations in writing to the Board of Governors. But any other five members, not governors, may nominate members who have consented to serve as governors to be elected at the annual meeting, and may put such nominations over their signatures on the bulletin board of the club at least five days before the date of the meeting.

It will be remembered that at a former meeting of the club the office of the secretary, J. L. Varick, 105 Chambers street, was designated as the official headquarters of the club, where the nominations above referred to are to be officially posted.

THE DINNER.

On account of the financial embarrassment of the Manhattan Athletic Club, it has been found necessary to change the place of the Hardware dinner, which will be held at Sherry's, Fifth avenue and Thirty-seventh street, on Tuesday evening, February 21, at 7 o'clock, instead of in the rooms of the Manhattan Athletic Club, as originally intended. The dinner committee suggest that if any further tickets are desired application may be made at once, as but few remain. It is the intention of the committee not to sell more seats than the room will comfortably accomodate, so as to avoid overcrowding of tables. Arrangements for the dinner are progressing satisfactorily, and it is expected that it will be an exceptionally pleasant occasion.

Hibbard, Spencer, Bartlett & Co.

TWO CATALOGUES. First, Summer Sports for 1893.—This is the title of a new catalogue just brought out covering Base Ball, Foot Ball, Lawn Tennis and Gymnasium Specialties, &c. The catalogue comprises 48 pages of an immense variety of goods of this character, embracing almost everything in the line of requirements for summer sports. The firm have greatly increased their stock of goods of this character, consequently the catalogue is the most complete of the kind they have ever issued. Second, Fishing Tackle. This catalogue comprises 64 pages, embracing everything from Fishing Rods, Reels, Hooks and Lines to sportsmen's personal requirements. The assortment offered in this catalogue is very complete and is claimed to be equal, if not superior, to that offered by any other house handling sporting goods. These catalogues will be of value to Hardware merchants who make sporting goods a part of the lines handled.

Weekly Prize Competitions.

$25.00.

FOR MORE THAN six months Weekly Prize Competitions ($10) have been an interesting and useful feature of the *Pharmaceutical Record*, a journal issued from this office and devoted to the interests of the drug trade. These weekly competitions have related to a variety of technical and business questions of interest to druggists, and have brought out a large amount of information of much service to the readers of that enterprising journal. In view of the success of this feature we have decided to announce a similar series of Weekly Prize Competitions on questions of interest to our readers, and invite a general participation on the part of the trade. As the object of these competitions is to obtain information which will be of practical service to our readers, and to discuss questions in which they are interested, we shall esteem it a special favor if any in the trade will suggest subjects for such competitions, which, if deemed suitable, we shall take pleasure in using.

In each competition there will be three prizes—a first prize of $12.50, a second prize of $7.50 and a third prize of $5. The prizes will be awarded for the answers which in the judgment of the committee of award are most suitable for publication and of the most general interest. These competitions are open to every one, and it is hoped that there will be a general response from business men. Those intending to compete are reminded that it will not be necessary to write long essays, but that comparatively brief and business-like answers to the different questions will be favorably regarded as meeting the purpose for which these competitions are announced. We shall have the privilege of publishing any or all of the contributions received.

Weekly Prize Competition No. 5.

SUBJECT:

A Method of Securing a Reliable and Prompt Delivery of Goods.

This competition deals with the delivery of goods by retailers, and touches the following among other points, which will readily occur to our readers:

Marking name and address of purchaser on goods;
Disposition of goods awaiting delivery;
Time and method of delivery;
Form of receipt signed upon delivery of goods;
General suggestions on the subject.

The following prizes will be awarded:

First prize	$12.50
Second prize	7.50
Third prize	5.00

Replies are to be received not later than

March 4, 1893. They should be addressed as follows:

DAVID WILLIAMS,
96–102 *Reade street,*
New York.

Weekly Prize Competition No. 5.

The Weekly Prize Competitions noted below are now before our readers and remain open until the dates named:

No. 2. Closing February 11.
How to Keep the Store Neat and Clean.

No. 3. Closing February 18.
Waste in the Store and How to Avoid It.

No. 4. Closing February 25.
Suggestions as to Improvements in Putting up Goods.

No. 5. Closing March 4.
A Method of Securing a Reliable and Prompt Delivery of Goods.

Another subject will be announced in our next issue.

Our readers are also reminded of the following Prize Competitions, announced on another page, in each of which four prizes, of $50, $25, $15 and $10, are awarded:

No. 6. Closing February 18.
How Retailers Can Best Advertise and Extend Their Business.

No. 7. Closing February 18.
Travelers' Yarns.

No. 8. Closing February 18.
How to Treat Clerks.

No. 9. Closing February 18.
Shop System of Keeping Track of Jobs.

No. 10. Closing February 18.
Business Maxims—At Least 10.

No. 11. Closing February 18.
How Small Retailers May Keep a Record of Prices.

Potection to Merchants.

THE QUESTION as to the propriety of manufacturers selling to the customers of the merchants who purchase their goods has been touched upon by several of our correspondents. The letter which we print below is from a well known house in Iowa, who recognize the prevalence of such transactions as that referred to in our issue of December 15, but while regretting the condition of things suggest no remedy:

The question is a very difficult one to answer; there is no rule any more, that is being lived up to, between the manufacturer, the jobber and the retailer, or the consumer, if you please, regarding the sale of goods. Of course there are exceptions, but the rule is that everybody sells where they get a chance; if not at one price they will at another. Of course there is no question about there being a wrong in the present case; the manufacturer should not have sold the consumer at all; yet almost all of them will fill an order from any one if the party has cash or credit; so to take up the subject at all would mean to attempt to revolutionize the entire commercial field.

We give below another letter, which is from a merchant in Ohio, in which the whole question is discussed in its different features. It will be observed, however, that this correspondent takes quite a different view from that expressed above, and evidently does not consider that retailers have much reason to complain for the action of manufacturers in selling to their trade:

In your December 15th issue, under this caption, you speak of the tendency of the manufacturer, whose goods are being handled, toward soliciting the same parties you have quoted and offering goods at nearly if not quite as low a price as to the dealer. If such is the case it is to be regretted. It is neither business-like nor honorable. It does not occur to any large extent with us; if it did we should fight it to a very bitter end. There are circumstances which alter all cases, but we believe in the main the dealer is largely to blame for any trouble bearing on the question. In a large experience, we have the first time in which it has occurred that we have not made satisfactory arrangements as between manufacturer, dealer and consumer. We have had it occur with jobbers that they quoted our customers as low as ourselves, but we account for this in the great struggle that the jobber is making to keep on his feet, as between the manufacturer and the dealer or retailer. In their desperation it is a case of anything to sell goods.

Going back to the original question—perhaps your correspondent from a Western city is not satisfied with small, or trade profits on certain lines—for there are certain lines that never admit of large profits to a dealer. As an instance, the File market, where orders are large or inquiries are large, close quotations are made, even to a 2½ or 5 per cent. basis. While at the same time the manufacturer, in quoting 67½ per cent. discount to consumer, should certainly have intimated to him that the goods could be bought of his dealer at the same price. We are not making an apology for closeness of price quoted except as an extreme—as for Files, Bolts, Screws, &c.—and yet the question arises whether it would not be better for manufacturers to refuse quotations at all and refer parties to their dealers, rather than to make them so much at variance with the dealer as to throw the inquirer off, and lead him to another make or line of goods.

The question admits of a very wide range for discussion, and almost necessarily depends for settlement, upon location, agreements, contracts and business capacity of the dealer for making same. We feel certain, as a dealer, that protection from anybody will never come to us, except as we protect ourselves to the extent of our capability. A hundred times a year, as jobber and retailer, this comes up to us and we still fight it as best we can, and will continue to until the end of the story.

Several cargoes of Russian cotton have been shipped at Odessa to German ports, but the quality is inferior.

Revolving Show Stand.

THE accompanying illustration of a revolving Show Stand is reproduced from the London *Ironmongry*, and consists of a block of wood about 18 inches long and 4 inches square, covered with a piece of virgin cork. A piece of cork that will just fit around the block in its natural curl without cutting is the best, and is secured by fixing a 6-inch circular block at each end. The articles to be displayed are attached in picturesque disorder, not being crowded lest they become confusing to the eye. Knives, Forks, Scissors, Corkscrews, Ice Picks and other articles can be securely attached by the points, so as to

Revolving Show Stand.

stand out prominently from the cork, forming an attractive display. This is made to revolve by a roasting jack concealed in the cork above the stand, the constant movement and the glitter from the polished surface of the goods in the sun or gaslight arresting the attention of passers-by, proving, it is said, a wonderful and constant source of interest. We suggest that an electric motor or other power could readily be substituted for the roasting jack by those desiring to utilize this idea for displaying this class of goods.

Preparations are making to construct over the Mississippi River at New Orleans the largest cantilever bridge in America. It will be of steel with three continuous spans between the banks, the longest to be 1095 feet in length. In three years the bridge will be opened for traffic, at a cost of $5,000,000.

Fish Commissioner McDonald says that the Alaska salmon fisheries if fostered might become more valuable than the seals in Bering Sea.

Builders and Hardwaremen.

By a Merchant.

SECOND ARTICLE.

IN THE PREVIOUS ARTICLE we described how the owner of the house to be built and our salesman went over the architect's plan together, and how the owner, guided by the knowledge and experience of the salesman, made selections from the samples shown of the different grades and finishes of Hardware. This matter having been decided, the next thing for us to do is to make out a schedule, following the owner's wishes and clearly showing the kind of goods to be used in the different parts of the house. This schedule we submit to the owner that he may give his approval and make any changes he desires before we figure on the cost of the goods. The schedule is presented to the owner for his approval in the following form:

Owner's Schedule of Hardware.

Front doors, Cluny design, F-80 finish, Y. & T. lock, No. 234½.
Vestibule doors, Cluny design, C-40 finish, Y. & T. lock, No. 274½.
Reception Hall, Urbino design, C-40 finish, Y. & T. lock.
Parlor, Amherst design, G-60 finish, Y. & T. lock.
Sitting room, Lyons design, B-34 finish, Y. & T. lock.
Dining room, Plymouth design, S-52 finish, Y. & T. lock.
Rear first and second story, plain design, B B finish, S. & Co.
Second story, front, Rococo design, No. 7½ finish, R. & E.
Bathrooms, plain design, N-10 finish, Y. & T.
Locks.—No. 1620, in front part.
No. 1603, mortise locks on all bathroom doors and doors leading to rear part and outside.
No. 1706, sliding-door locks.
No. 1000, latches for closet doors.
Use corresponding numbers in rear part of first and second story and front part of second story of the makes specified.
Push Buttons.—To match outside trim of front doors.
Escutcheons.—All elongated, to match.
Push Plates.—On double-acting doors, large size, to match.
Hinges.—No. 750 on front doors, pattern and finish as specified.
No. 780 on inside doors, pattern and finish as specified.
Spring Hinges.—Chicago, iron, of proper finish and size.
Inside-Shutter Trimmings.—None.
Hinge Straps.—None.
Number Plates.—Special design, No. 1024.
Bolts.—Chain bolt on side door.
6-inch barrel bolt on basement door.
All flush bolts, with turn knob.
Sash Fasteners.—No. 1371 P.
Sash Lifts.—No. 1344 in front part.
No. 1343 in rear part.
Two only, No. 1362, on heavy front windows.
Sash Sockets.—No. 1350 in front part.
No. 1351 in rear part.
Sash Hooks.—Furnish 4 with poles, No. 1358 P.
Cupboard Trimmings.—In front part, special.
Base Knobs.—For all doors, to match room.
Coat and Hat Hooks.—No. 113 for closets; No. 1601 for front hall, 1 dozen.

The foregoing schedule having been submitted to the owner, he makes any changes he may think desirable, and when this has been done and the selection approved by him we can consult the plans. This is done to take off the quantities, sizes, &c., in detail to aid in preparing a detailed schedule of the Hardware. We submit this list of Hardware to the owner, accompanied by the following proposition:

Mr. ——

DEAR SIR: We herewith submit to you the following schedule of Hardware, as per plans of your residence and in accordance with the instructions we have received. We will furnish the Hardware herein named complete for $587 net. The cabinet trimmings of front part are not included, as the exact sizes and styles of these trimmings cannot be ascertained until the work is further advanced. These, therefore, and any additional Hardware not enumerated will be charged for extra. Soliciting your order, we are respectfully yours,

——.

Schedule of Hardware.

Double Front Doors, 2¼ inch, R. H.
1 No. 234½ R. H. F. D. lock; Cluny, R. H., F-80 outside finish; Cluny, R. H., C-40 inside finish.
½ pair 2½-inch Cluny knobs, F-80 finish.
½ pair 2¼-inch " C-40 finish.
1 only Cluny push button, F-80 finish.
1 " 12-inch Cluny extension flush bolt, C-40.
1 only 24-inch Cluny extension flush bolt, C-40.
1 only No 401 escutcheon plate, F-80.
3 pairs No. 750 5 x 5 butts, plain, C-40 finish.
Vestibule Doors, Double, 2¼-inch, R. H.
1 No. 274½ R. H. vestibule latch, C-40 finish.
1 No. 401½ escutcheon plate, Cluny, C-40.
½ pair 2½-inch Cluny knobs, C-40.
½ pair 2¼-inch Urbino knobs, C-40.
1 extension flush bolt, Urbino, each 12 and 24 inch.
3 pairs No. 750 5 x 5 butts, Cluny, C-40.
1 *Double Sliding Door*, reception hall to parlor.
1 No 1706 sliding-door lock, G-60 finish.
1 pair Urbino cup escutcheons, C-40 finish.
1 pair Amherst cup escutcheons, C-40 finish.
1 *Double Sliding Door*, reception hall to sitting room.
1 No 1706 sliding door lock, B-10 finish.
1 pair Urbino sliding cup escutcheons, C-40 finish.
1 pair Lyons sliding cup escutcheons, B-34 finish.
1 *Single Swinging Door*, reception hall to bathroom. 1¾ inch L. H.
1½ pairs No. 780 4 x 4 butts, plain, N-10 finish.
1 No. 16 3 3 bolt lock, N-10 finish.
1 No. 411 escutcheon, Urbino, C-40 finish.
1 No. 413 escutcheon, plain, N-10 finish.
1 pair 2¼ inch knobs, plain, N-10 finish one side; Urbino, C-40 on opposite side.
1 *Double-Acting Door* to dining room. 1¾ inch.
½ pair No. 31 Chicago spring hinges, S-52 finish, 1¾ inch.
½ pair No. 33 Chicago spring blanks, S-52 finish, 1¾ inch.
1 only Urbino push plate, C-40 finish.
1 only Plymouth push plate, S-52 finish.
2 *Double-Hung Windows* in reception hall.
2 only No. 1371 sash fasteners, C-40 finish.
2 only Urbino sash lifts, C-40 finish.
2 only No 1350 sash sockets, C-40 finish.
1 *Double Sliding Door*, parlor to dining room.
1 only No. 1706 sliding-door lock, G-60 finish.
1 pair Amherst sliding cup escutcheons, G-60 finish.
1 pair Plymouth sliding cup escutcheons, S-52 finish.
1 *Large Front Window*, double hung, in parlor.
2 *Regular Windows*, double hung, in parlor.
3 No. 1372 Amherst sash fasts, G-60 finish.
3 No. 1350 Amherst sash sockets, G-60 finish.
2 No. 1362 Amherst bar sash lifts, G-60 finish.
2 No. 1344 Amherst sash lifts, G-60 finish.
Dining Room, 2 double-hung windows.
2 No. 1372 sash locks, Plymouth, S-52 finish.
2 No. 1350 sash sockets, Plymouth, S-52 finish.
2 No. 1344 sash lifts, Plymouth, S-52 finish.
Sitting Room, 1 single swinging door from bathroom.
1½ pairs No. 780 butts, 4 x 4, Lyons, B-34 finish.
1 No. 1603 lock, B-10 finish.
1 only No. 411 escutcheon, Lyons, B-34 finish.
1 only No. 413 escutcheon, plain, N-10 finish.
½ pair 2¼-inch knobs, Lyons, B-34 finish.
½ pair 2¼-inch knobs, plain, N-10 finish.
Sitting Room, 2 double-hung windows.
2 No. 1372 sash locks, Lyons, B-34 finish.
2 No. 1350 sash sockets, Lyons, B-34 finish.
2 No. 1344 sash lifts, Lyons, B-34 finish.

For First Story.

2 No. 1358 sash hooks mounted on poles.
1 *Transom Over Vestibule Doors.*
1 pair 3 x 3 tight joint butts, solid bronze, C-40 finish.
1 only 5-16 x 4 feet Wollensak's transom lift, C-40 finish.
1 No. 1188 P transom catch, C-40 finish.

First and Second Story Rear.

2 *Outside Doors*, 1¾-inch.
6 *Inside Doors*, 1⅜-inch.
6 *Windows*
3 pairs No. 239 4 x 4 butts, F-80 finish.
9 pairs No. 239 3½ x 3½ butts, F-80 finish
2 No. BB 5754 mortise locks.
4 No. BB 887 escutcheons.
6 No. BB 5344 mortise locks.
12 No. BB 887 escutcheons.
8 pairs BB 1622 knobs, without roses.
6 No. BB 384 sash fasts.
6 No. BB 436 sash lifts.
6 No. BB 400 sash sockets.
4 *Cupboard Doors in Rear.* 6 drawers.
4 pairs BB 136 2 x 2 butts.
4 No. BB 4460 cupboard turns.
12 No. BB 436 drawer pulls.
1 *Transom over Kitchen outside Door.*
1 pair 2½ x 2½ inch tight joint butts, BB finish.
1 pair ¼ x 4 feet Wollensak transom lift, BB finish.

Second Story, Front, is treated in the same manner as the above, with details specified; the furnishings being of No. 7½ Rococo finish.

When the Hardware is all applied, the effect will be then designed by the owner. On the outside of all closed doors will be found Bower Barff finish, Cluny design—black; in the vestibule C-40 finish, Cluny design—old copper; reception hall, C-40 finish, Urbino design—old copper; parlor, G-60 finish, Amherst design—gold; sitting room, B-34 finish, Lyons design—bronze; dining room, S-52 finish, Plymouth design—oxidized silver; bathrooms, N-10 finish, plain design—nickel; rear, F-80 finish, plain design—black; and in the front, second story, No. 7½ finish, Rococo design—mottled copper.

Convincing the owner that it is to his advantage to select his own Hardware, going over the plans with him and suggesting the most appropriate and most desirable goods to be used in different parts of the house; drawing up first the rough schedule to be submitted to him, and afterward making out a detailed schedule, specifying quantities, finishes, numbers and makes of the goods; and then figuring the cost of the same, has required much thought, labor and time. Much of this work has been done after regular business hours, so as to be free from interruptions of customers and other annoyances incident to daytime in a store. After the work has all been done and the price at which we will furnish the bill submitted to the owner, we are fortunate if we receive the order, even at the low margin of profit which competition has obliged us to figure at. Is the play worth the candle?

Trade Topics.

How Sales Should Be Credited to Salesmen.—From a subscriber in New Jersey we have the following inquiry in regard to this matter, on which an expression from the trade is desired:

1. Should the salesman be given credit for the total amount of goods sold on the territory assigned to him;

2. Or only with the amount actually booked by him;

3 Or should he be credited with orders booked and mail orders sent in from parties whose accounts have been opened by him?

This inquiry applies either to commission men or those on a salary, as no doubt salaries are usually regulated by the amount of goods sold. If an employer fixes on a certain percentage of selling, should a difference be made between the city and traveling salesmen?

Export Notes.

WILLIAM E. PECK, exporter, 62 William street, New York, who has been abroad for the past eight weeks, returned from an inspection of his European branches on the steamer "Teutonic," arriving February 2. He refers to the business outlook there as encouraging.

Charles A. Knight, manager of the Glasgow and London branches of the Babcock & Wilcox Company, boiler manufacturers, main office, 30 Cortlandt street, this city, arrived from Liverpool on the steamer "Teutonic" February 2, and will spend about two weeks in the United States in connection with the business of his company. It may be said this corporation is doing a steadily increasing European business.

D. G. Holmes, who holds an executive position with the exporting house of W. E. Peck, having recovered from a recent serious illness, has gone South on a mission combining business with pleasure. He sailed from New York on the steamer "City of Alexandria" February 4, for Havana, and it is very likely his employer will cable him to continue on to Mexico.

Hugh Reid Griffin, manager of the London office of the Walter A. Wood Mower & Reaping Machine Company, is now in this country on a visit, having arrived recently on the steamer "Majestic." He reports a good outlook for business abroad during the current year.

There recently came under our observation a curious article of importation to find its way into this country through the medium of a Hardware firm. W. B. Fox & Bro., 97 Chambers street, New York, in addition to being resident buyers here for various Hardware houses throughout the country, have long exported Hardware and related goods to numerous foreign countries, among which are the South African Colonies. About ten years ago, unsought by them, came a consignment from correspondents at Cape Town of 1000 pounds of what are technically known as "Capes," which have been coming regularly ever since. These are an attractive white flower, sometimes called "Everlasting," from their imperishability. The leaves in a good specimen average about 1 inch in length and 3-16 inch at the widest part, gradually tapering to a sharp point at the top, the surface having a satin finish. They are bought almost exclusively by florists, and are used largely in the manufacture of set pieces, into which cut flowers are inserted. We are told that the largest shipment to this country of which they have knowledge aggregated 440 cases, averaging 150 pounds each, of which their portion was 11,000 pounds. The retail price has been as high as $1.25 a pound and as low as 10 cents, according to the supply. They are also sent largely to England and Germany, where, besides being used in a natural state, they are dyed and put to various uses.

New South Wales, Australia, has just commenced the enforcement of a new regulation relating to imports into that country. The custom has been to levy duties on merchandise based on the original cost, whether manufactured or otherwise, which has been accomplished in this way. Manufacturers and others selling goods to export merchants have billed the articles to the purchaser ordering the goods, he in turn rebilling them, making what is known as a split invoice, showing first the bare cost of the goods at factory or wherever produced and separately the charges in getting the merchandise aboard the vessel, such as cases, packing, freight, cartage and such incidentals as accumulate in the regular course. No change has been made in the method of computing the duties, but that Government now insists on the forwarding of the original invoice in addition to the other documents.

W. R. Grace & Co., New York, through their representatives in Great Britain, have signed contracts with an English firm of shipbuilders for the construction of two first-class full powered freight steamers with all modern improvements, to be put on their new line now in operation between New York and the West Coast of South America, via the Straits of Magellan. This line was inaugurated in January of this year, as announced in our issue of December 15 last, the first steamer being the "Coya." The two steamers under contract are to be 322 feet long, 42 feet 6 inches beam, having a depth of 28 feet 6 inches, with a measurement of 5250 tons. They are expected to develop a speed of 13 knots, enabling them to accomplish the journey from New York to Valparaiso in 36 days. A third steamer has been secured, and a fourth is now being negotiated for. These vessels will constitute the fleet of the line and it is expected the first new steamer will be delivered by August 1, 1893.

Both Chambers of Congress at Bogota, United States of Colombia, recently approved, after a long debate, the law pertaining to monetary regulation. The reestablishment of the exchange of paper money for a metallic currency and the reorganization of the National Bank are sought. To accomplish this new sources of revenue are created—the tobacco tax, the laying of an important tax on alcoholic liquors and other articles generally regarded as luxuries—to provide the Banco Nacional with the requisite funds. From $2,000,000 to $3,000,000 annually is expected from these sources. The billete for the present will be exchanged for silver at .835.

The California Bay Pearl Fishing Company have leased from the Mexican Government for 16 years the pearl fisheries comprised between the mouth of the Colorado River and Cape San Lucas, and between the port of Mazatlan and Barra de Suchiate with the exception of the Ensenda de Chamela fisheries.

C. B. WYMAN, dealer in Hardware, Implements, &c., Bangor, Maine, advises us that he has closed out his stock and gone out of business.

Louisville Trade.

(From a Special Correspondent.)

THE Hardware Trade of Louisville, Ky., is good. Of course prices are low and competition sharp, necessitating the increasing of the volume of business done to continue the profits legitimate to the trade.

The country is generally in a healthy state. No upheavals are expected on account of political changes, and all are satisfied if present confidence is maintained.

Locally the prospects are good for a heavy building year and the country people are ready to put in large crops. Perhaps the lands about this section are as well adapted for diversified farming as any in the country. Another same given number of acres could support twice the population, which is rapidly increasing. The confidence in the cotton section of the South is improving, as the merchants there show their ability to hold their own and satisfy demands on them. Collections from that quarter are reasonably good.

The ice bounds have broken up at last and the rivers are free again for the resumption of navigation. This is good, for the railroads were becoming overcrowded with freight. Great as their capacities have grown, their facilities were not equal to handling the additional river freight too. This is applicable to the roads paralleling the rivers.

There have been frequent allusions to the effect on Wire products by the action of several Wire companies going into consolidation, which leads to the possibility of a giant combine of all the Rod mills and Wire mills. Unless they could all be under one absolute management and ownership, probably very little good could be effected. Prices have stiffened somewhat on some lines, Barb Wire for one, which probably has passed through a course of the lowest prices ever known. The Barbed Wire men, like the Wire Nail manufacturers, seem to have no confidence in their own goods, and rather than keep a few hundred tons, even if they did stop the machines awhile, would sacrifice a certain tonnage and keep going. Wire Nails are quite firm, for the same reason that a rock lies firm when it strikes the bottom of a pond. The dealers are realizing this now and are covering for present needs quite freely. There would spring up an enormous demand, a general boom in Iron and Steel goods, if production was not so far in excess of actual needs. A small healthy advance in staple lines would be very acceptable just now, and not at all unreasonable to expect, as the country is in excellent trim and weary of steady downward flow of values. It is like a person accustomed to living near tidewater and then moving to where the water always flows in one direction and that down stream. There is no return current.

Cut Nails in Massachusetts.

EVER SINCE the invention of Cut Nails, Massachusetts manufacturers have been compelled by law to stencil upon the kegs containing them the manufacturer's name and the weight of Nails, when exposing them for sale within the Commonwealth. The Legislature of 1891–1892 passed a law, with penalties, ordering the same stenciling upon the kegs of all Nails, Cut and Wire, offered for sale within the Commonwealth wherein made. The sale of short weight packages not branded with the manufacturer's name, made in other States, is said to have been the immediate occasion of the passage of the law. The law makes it illegal under penalty of forfeiture for any dealer to expose for sale Nails stenciled with his own or a fictitious name. It went into force July 1, 1892. One-half the forfeiture is given to the informant.

PRIZE COMPETITIONS.

WE HEREBY ANNOUNCE a series of six prize competitions relating to trade matters in which our readers are interested. Four prizes of $50, $25, $15 and $10 will be awarded in each competition.

The competitions are open to all and a general participation on the part of the trade is invited.

We shall have the privilege of publishing any or all of the contributions received.

The committee of award in assigning prizes will take into account the merit of the different contributions and their suitability for publication.

PRIZE COMPETITION No. 6.

How Retailers Can Best Advertise and Extend Their Business.

The object of this competition is to obtain practical suggestions as to the methods which the retail dealer in Hardware, Stoves, Tinware, &c., can advantageously adopt in building up his business, and is intended to cover such points as the following:

Advertising in the local papers, with suggestions as to how such advertising should be done and to what extent;
The manner in which circulars and other printed matter may be used;
A description of any special or unusual methods of attracting and holding trade: and
General suggestions in regard to ways in which the business can be extended.

An account of any methods which have been found useful in building up trade will be suitable under this competition.

First Prize	$50.00
Second Prize	25.00
Third Prize	15.00
Fourth Prize	10.00

This competition will be open until the close of business February 18, 1893.

Contributions should be addressed to David Williams, 96–102 Reade street, New York, and marked Prize Competition No. 6.

PRIZE COMPETITION No. 7.

Travelers' Yarns.

The traveling salesman is proverbially happy in the stories which he narrates, and this competition is for the purpose of calling out a collection of good yarns for publication. While the attention of travelers is specially invited to this competition, it is open to all. Stories relating more or less closely to trade or business matters will be preferred.

First Prize	$50.00
Second Prize	25.00
Third Prize	15.00
Fourth Prize	10.00

This competition will be open until the close of business February 18, 1893.

Contributions should be addressed to David Williams 96–102 Reade street, New York, and marked Prize Competition No. 7.

PRIZE COMPETITION No. 8.

How to Treat Clerks.

Under this competition, beside a general discussion of the subject, such questions as the following may be considered:

The extent to which clerks should be given an opportunity of obtaining a knowledge of the business, and of price-lists, prices, &c.:
Whether it is desirable to have formal rules for the regulation of employees and for the management of the store. If so, a set of rules should be submitted;
To what extent clerks should be held responsible for their mistakes;
Suggestions as to how clerks should be treated in order to secure their most intelligent and efficient work;
Mistakes made in the treatment of clerks.

This competition opens an important subject and it is hoped that it will be discussed fully by merchants and by their clerks from their different points of view.

First Prize	$50.00
Second Prize	25.00
Third Prize	15.00
Fourth Prize	10.00

This competition will be open until the close of business February 18, 1893.

Contributions should be addressed to David Williams, 96–102 Reade street, New York, and marked Prize Competition No. 8.

PRIZE COMPETITION No. 9.

Shop System of Keeping Track of Jobs.

This competition is intended to call out information in regard to methods of keeping account of the cost of labor and material on tin-shop work, repairing and new work, inside and outside. In connection with the general subject such points as the following may be touched upon:

Whether blanks or forms are used in connection with such work. (If so, samples should be submitted);
What record is kept of orders, costs of jobs, charges, &c.;
How time occupied in going to and from the job is covered;
Suggestions in regard to the profitable conduct of the shop.

To illustrate the system it is desirable that a specific job (as for example, repairing down spouting and eave trough, or other job of repairing in which new material is used) be referred to and the method of keeping track of the costs in such job fully explained.

First Prize	$50.00
Second Prize	25.00
Third Prize	15.00
Fourth Prize	10.00

This competition will be open until the close of business February 18, 1893.

Contributions should be addressed to David Williams, 96–102 Reade street, New York, and marked Prize Competition No. 9.

PRIZE COMPETITION No. 10.

Business Maxims—At Least 10.

Those entering this competition will send at least ten maxims relating to the conduct of business, presenting in a brief and pithy manner practical suggestions which may advantageously be followed.

First Prize	$50.00
Second Prize	25.00
Third Prize	15.00
Fourth Prize	10.00

This competition will be open until the close of business February 18, 1893.

Contributions should be addressed to David Williams, 96–102 Reade street, New York, and marked Prize Competition No. 10.

PRIZE COMPETITION No. 11.

How Small Retailers May Keep a Record of Prices.

The object of this competition is to call out information or suggestions in regard to the best methods to be adopted in keeping a record of prices, showing cost or selling prices, or both cost and selling prices, of Hardware, Stoves, Tinware, &c., in a small retail store employing not more than four persons in the selling and bookkeeping departments, including the proprietors. Those entering the competition are expected to give a concise and clear explanation of their system, and if a price book is used, to submit as illustrating the system at least three specimen pages. If a price book is referred to it may be of any design or arrangement best adapted to the purpose, and may be original with the contributor or may be one of the different price books on the market. Fictitious names should be used instead of the real names of jobbers and manufacturers.

The committee in awarding prizes will take into account the merit of the different systems described, the character of the descriptions given, and the general utility and interest of the contribution.

First Prize	$50.00
Second Prize	25.00
Third Prize	15.00
Fourth Prize	10.00

This competition will be open until the close of business, February 18, 1893.

Contributions should be addressed to David Williams, 96–102 Reade street, New York, and marked Prize Competition No. 11.

Is the Trade in Builders' Hardware Unsatisfactory?

A Hardwareman's Views.

AS RELATING to the subject discussed in our last issue under the heading of "Builders and Hardwaremen," the following letter from a Hardwareman in Virginia will be of interest. Our correspondent points out, it will be observed, several annoyances connected with this trade and the little profit with which it is rewarded:

In reference to the subject of furnishing Hardware to builders, would say, in the majority of cases it is unsatisfactory, unprofitable and decidedly worrying. In the first place, the architect is generally unfamiliar with the Hardware business, and frequently specifies for articles long out of use, some new and untried patent, or has been influenced by small factories to specify their goods all through, which is a source of trouble to the dealer, not having them in stock and very probably not being able to buy them at the right prices; consequently his already small profits are made smaller. Then the specifications will call for "the Hardware, including Locks, Hinges, Window Fastenings, &c., to cost $200 for the three houses," as occurred quite recently in our city. The writer spent several hours in figuring with owner of the houses and showing samples of the qualities and finishes that would come in the limit, only to be rewarded by having the whole bill sent to a second-class Lock factory (pardon the name) at a cost of nearly twice as much and the articles no better in quality or finish.

Again, when the selection of Hardware is left to the owner he will probably bring his whole family to assist in the operation, and, after filling the order and delivering the goods, have the largest part returned with the message "they are too good for upstairs, &c.," and the whole thing must be gone over again.

Frequently the builder is irresponsible, and, while he may have kept a satisfactory account with you for some time, he will get a contract involving more labor and material than he expected, or some accident will happen and he loses money on that particular job; he will make an assignment, and the Hardwareman, with his close figures, comes in for 25 or 30 cents on the dollar.

While this particular branch is the most interesting in the business, as it gives room for display of taste, it is the most unsatisfactory as far as profits and payments are concerned.

To sum up, the architect is at fault for not having a practical knowledge of the business, the builders from carelessness or accident and the Hardwareman for not putting on enough profit to cover the trouble and probable loss. While it is a class of trade we cannot well do without, it is best to have as little as possible, and confine it to such builders as are thoroughly reliable and understand their business; even then it is not what it might be.

A word about these so-called "Lock factories" who make it their business to call on all the architects and builders, persuading the former to specify their goods on promise of a liberal commission and the latter to send their orders direct to factory and save the jobbers' profit, when they generally pay more for such goods than they would for standard makes bought through their jobber. Such factories do not deserve nor do they get the jobbing trade, and we can only trust that the older makers may never resort to such methods, although it has been done by some of them in several cases which have come to my knowledge.

Trade Items.

MATTHAI, INGRAM & CO., recently at 64 Reade street, New York, have moved to new and more commodious quarters at 42 Cliff street, where they will be more in the trade center with which they are connected. They have secured three lofts, the first of which will be used as an office and sample room. The second and third lofts will be devoted to the storing of stock. The increased room will allow of carrying a larger and much better assortment of the line made by this house at their factory in Baltimore, which will be availed of. The branch in this city still continues under the management of Edward H. Brooks.

F. E. MYERS, of the firm of F. E. Myers & Bro., Ashland, O., manufacturers of the Myers Pumps and Hay tools, left Tuesday on a trip that will be full of interest and enjoyment. He goes on an excursion of business men to Mexico and Cuba, and will remain a month. The excursion was originated by the Australasian Publishing Company of New York. Mr. Myers will join the excursion at Columbus, O., go with the party to St. Louis, from there to Mexico, spend a week or more there, then visit Cuba and return by way of ocean steamer to New York. Mr. Myers will combine business with pleasure.

ON JANUARY 31 a disastrous fire threatened the large house of W. B. Belknap & Co., Louisville, Ky. Their only loss, however, was in an adjoining cellar, where they had about $5,000 worth of goods stored, some of which were damaged by fire and water. Their business was not all affected and shipments went on as usual the next day.

WE ARE INFORMED that the Omaha Hardware Company, who were recently burned out, have received their insurance, and are pleased to learn that they are now paying their creditors in full.

CAVANAGH & THOMPSON announce that they have opened a store at the corner of Reade and Hudson streets, New York, where they are prepared to offer everything in the line of Wooden Ware at bottom prices. It is mentioned that the members of the firm were formerly connected with Early & Lane and John Early & Co.

A. BUCHANAN & SONS, 1586 Fulton street, Brooklyn, N. Y., are building a store 85 x 20 feet and a shop 90 x 20 feet, which will front on Fulton street and also on Sumner avenue, and expect to be in their new quarters by May 1. The firm name will then be changed to A. Buchanan's Sons.

THE FIRM name of the Geo. Hayden Hardware Company, Jacksonville, Ill., was on February 1 changed to Hayden & Gay.

F. E. MYERS & BRO., Ashland, Ohio, have recently placed in their works, at a cost of $800 each, two large turret lathes of the most approved design and latest equipments, for first-class and rapid work. With other lathes of the best design already placed, they mention that they will have a capacity superior for good work to those using upright machinery. They have also recently put in a new automatic bolt cutter, and have made a number of other improvements throughout their works. The addition of the above machinery has been rendered necessary by the large increase in their trade.

THE FIRM OF MELDRUM & JONES, Room 407 Commerce Building, Louisville, Ky., was recently established for the purpose of acting as sales and purchasing agents in the Iron, Metal and Hardware lines. The young men composing this firm have been for the past nine years in the employ of one of the best known Hardware and Iron houses in Louisville, and they have an extensive acquaintance among dealers in their line in Louisville and the South. They would like to open up correspondence with dealers in the lines they represent who are desirous of representation in that section.

TAUNTON WIRE NAIL COMPANY, G. P. Cahoon, manager, Taunton, Mass., have recently moved into larger quarters, doubling their former capacity and affording more conveniences for the transaction of business. This concern are making a specialty of Wire Carpet Tacks for the Hardware trade.

IRON CLAD MFG. COMPANY, 22 and 24 Cliff street, New York, in a circular to the trade, under date of February 3, 1893, state that the Habermann Mfg. Company are offering for sale a variety of Gray Ware, which the Iron Clad Mfg. Company are advised by their counsel is an infringement of patents owned by them, and that they shall immediately commence proceedings to protect their interests and enforce their rights by due process of law.

WRIGHT & COLTON WIRE CLOTH COMPANY, Worcester, Mass., have in operation, in addition to their wire weaving business, a plant for the manufacture of Wire, which they are prepared to furnish, including Annealed and Bright Market, Annealed Stone or Weaving Wire, Tinned, Stone, Broom and Matress Wire; also Steel Spring and Coppered Wire. A specialty is made of Market and Stone Wire, also of Straightened and Cut Wire. Their Hard Steel Galvanized Wire Poultry Netting is meeting with large demand, and it is expected that their mill will have to be run nights very soon in order to furnish the requisite amount of Wire for Poultry Netting and Wire Cloth.

A DECISION has been rendered by the United States Circuit Court of Appeals for the third circuit, in the case of John Wanamaker, appellant, *vs.* the Enterprise Mfg. Company of Pennsylvania, appellee. This was an appeal by John Wanamaker from the decision in the suit in which the court rendered a decree sustaining the patent (No. 271,398, January 3, 1883) relating to the Meat Chopper of the Enterprise Mfg. Company, and awarding injunction and damages against him. This decision, on appeal, was affirmed with costs. The Enterprise Company have thus again maintained their Meat Chopper patents against infringement.

WE ARE ADVISED that George H. Munroe, receiver of the Joliet Enterprise Company, Joliet, Ill., has disposed of about one-third of the stock during the past 20 days, principally to old customers of the company. Some 1800 tons of Barb Wire are still unsold, but the demand for it is referred to as large, and it is expected that the stock will be entirely closed out during the next 45 days.

THE BLUEFIELD HARDWARE COMPANY have been organized at Bluefield, W. Va., and have formally commenced business. The company advise us that they will be pleased to receive catalogues and quotations from manufacturers and jobbers.

OLIVER & ROBERTS WIRE COMPANY, Pittsburgh, Pa., announce under date February 1, that they are prepared to furnish Wire Spikes in any quantity and

upon short notice. They are making the following sizes:

3 inch x No. 6 (3-16 inch diameter).
3½ inch x No. 5.
4 inch x No 4 (7 32 inch diameter).
4½ inch x No. 3 (¼ inch diameter).
5 inch x No. 2.
5½ inch x No. 1 (9-32 inch diameter).
6 inch x No. 1 (9-32 inch diameter).
6½ inch x No. 0 (5-16 inch diameter).
7 inch x No. 0 (5-16 inch diameter).
8 inch x No. 00 (11 32 inch diameter).
9 inch x No. 00 (11-32 inch diameter).

They also state that they will make a specialty of shipping mixed carloads of Smooth and Barbed Fencing, Staples and Wire Nails.

JAMES S. BARRON & CO., 141 and 145 Chambers street, New York, Manufacturers and Jobbers of Rope, Cord, Twine, Brooms, Brushes, Wooden and Willow Ware, &c., are now remodeling their quarters, their business requirements not having been met as formerly situated. The building at 145 has been leased and will be used largely as a warehouse for storing goods. The street floor at 141 will be cleared of goods and used as a shipping room, the goods being packed and marked in the basement. The supplementary platforms or floors suspended from above in this room will now be used for samples, and will be continued back into what is now their office. Provision for offices is being made on the second floor.

THE HARTMAN MFG. COMPANY of Beaver Falls, Pa., have made a change in their Chicago office at 508 State street, by which F. S. Atherton, who has been in the employ of the company as selling agent for nearly five years, has been promoted to the position of general Western sales agent, succeeding T. DeWitt Ganse, who has held this position for the past two years. Mr. Atherton will have entire charge of the territory west of Chicago to the Pacific Coast, and also the Southern States west of Louisiana and including that State. Mr. Atherton has also made arrangements with the Union Drawn Steel Company of Beaver Falls to represent them in the same territory as general Western sales agent. He is alluded to as having had valuable experience and a wide personal acquaintance. I. W. Bollinger, who for six years has been head salesman for Nelson B. Williams, manufacturers' agent and warehouseman, Chicago, has entered the employ of Mr. Atherton, and will start immediately for the Pacific Coast by way of Texas. On his return Seattle, Tacoma, Salt Lake City and Denver will be visited, together with every other large city in his field.

MADISON COVERT has withdrawn from the Covert Mfg. Company, West Troy, N. Y., and the business will hereafter be carried on by his partner, James C. Covert, who will continue it under the old firm name. We are advised that the sales of the company's goods during the first month of the present year considerably exceed those of any previous January since the concern commenced business, and they refer to the outlook for the future as very gratifying. To meet this increased demand the plant will be enlarged and new machinery added.

DUFFY & LOVELOCK TOOL COMPANY, 154 Lake street, Chicago, has been formed for the purpose of making a line of fine Steel Tools, consisting of Crate Openers, Blacksmiths', Tinners', Bricklayers' and Carpenters' Tools, including a line of very fine quality of Carpenters' and Blacksmiths' Pincers; also a full line of Concrete Tools for use in making concrete sidewalks. It is their intention to add to their line from time to time as business may demand. The principal stockholders of the company are Arthur Brittan, A. W. Bond and George M. Lovelock, three old Hardware traveling men well known to the buyers in the country. The quality of the goods they are making should insure them a large and successful business.

THE PHILADELPHIA HARDWARE ASSOCIATION have arranged to give a banquet at the Mannerchor Hall on Thursday evening, February 23, and request an early application for cards of admission, which will be furnished free of charge to retail dealers and their salesmen. The purposes of the association are social and beneficial, and by fostering a friendly acquaintance among its members is endeavoring to promote the general welfare of the trade. Applications for cards of admission or for membership in the association may be made to H. L. Stortz, president, 210 Vine street, or to T. B. Hendrickson, 514 Commerce street.

THE COMPETITIVE TESTS of Cut and Wire Nails which have for some time been in progress at the Watertown Arsenal, Watertown, Mass., were completed last week, but the report of the commanding officer has not yet been issued. It is, however, in course of preparation and will be published in a few days.

GEORGE M. MATTESON, successor of Hardy & Co., 47 Warren street, New York, who is acting as purchasing agent for the better class of retailers, advises us that his business is very satisfactory and that he is meeting with much assistance from representative jobbing houses.

It Is Reported—

That the stock of Hardware belonging to Fox & Hamilton, Albany, Ore., has been divided, Matthews & Washburn taking the part owned by Mr. Fox, and Mr. Hamilton reserving his part and continuing business in his own name. Captain Fox is seriously ill, with no hope of recovery.

That John Kaufman's Hardware store at Watkins, Minn., was destroyed by fire on the 25th ult. Loss, $3,000; partially insured.

That Manchester & Rogers, South Royalton, Vt., have divided their business and dissolved partnership. Mr. Rogers will deal in Stoves and Tinware, while Mr. Manchester will carry on the Hardware business.

That the Hardware store recently opened by F. W. Fletcher, Williamsport, Pa., was entered by burglars on the 22d ult., and $30 worth of goods stolen.

That J. S. Ross, for many years a Hardware merchant of Mill Village, Pa., has sold his stock of goods to W. S., C. H. and H. W. Pollock, who will continue the business under the firm name of Pollock Bros.

That Kirke Hart of the firm of Bunce & Hart, Hardware dealers, Wolcott, N. Y., has sold out his interest to Mr. Bunce, who will hereafter conduct the business.

That E. W. Leete, Potsdam, N. Y., has sold his Hardware store to Henry Contryman & Co., the new firm consisting of Henry Contryman, Henry C. Batchelder and Allison Weymouth of Pasadena, Cal. Mr. Contryman is thoroughly acquainted with the business, having been in Mr. Leete's employ for a number of years. Mr. Leete has not as yet determined on his future occupation.

That A. H. Gordon has succeeded Eckman & Gordon, Hardware dealers, at Hendrum, Minn.

That E. J. Leavitt & Co., dealers in Hardware, Hartford, Minn., have sold out to A. J. Holze.

That Monies Bros., Hardware merchants, Scranton, Pa., have purchased property opposite their present establishment, and will in the early spring commence the erection of a handsome business block.

That H. J. Niebuhe has sold out his interest in the Niebuhe Hardware Company, Wells, Minn.

That Johnson & Wauvig, Hardware dealers, Litchfield, Minn., are selling out.

That Peck & Co., Hardware merchants, Bath, N. Y., will open a branch Hardware store at Bradford in the spring.

That Charles F. Tallman will shortly open a new Hardware store at Canton, N. Y. Mr. Tallman has had a long experience in the business, having been a member of the Hardware firm of Tallman & Howe.

That Charles Wise & Son are successors to the Hardware firm of Wise Bros. at Lake City, Minn.

That Louis Kissel, Hardware dealer, Hartford, Wis., has been succeeded by F. Kissel & Sons.

That John Balkema has commenced the Hardware business at Lafayette, Ind.

That Morey & Evans, at Sterling, Kan., have entered the Agricultural Implement business.

That M. J. Tanner has sold out his Hardware and Stove business at Belding, Mich., to H. L. Page.

That E. R. Weskott, Hardware merchant, Petoskey, Mich., has gone out of business.

That R. H. Lee is now carrying on the Hardware business formerly conducted by Lee & Pratt at Palmyra, Mo.

That Edgar & Small are a new Hardware firm at Pender, Neb.

That the Capelle Company have recently entered the Hardware business at Cincinnati, Ohio.

That C. W. J. Recker has succeeded J. M. Whiton in the Hardware business at Seattle, Wash.

That Lux & Hoagg and T. N. Murphy, Sprague, Wash., are closing out their Hardware stocks.

That H. N. Dunbar, Hardware merchant, Huntley, Minn., has been succeeded by E. A. Mains.

That the Hardware store of Hock Bros. 330 Dix avenue, Detroit, Mich., was entered by burglars on the 22d inst. Nothing was, however, stolen from the premises.

That Lansing, Mich., will have another Hardware store. It will be located in the new Cannel & Edmonds building now in course of erection.

That Charles Wallace, Hardware dealer, Winnebago City, Minn., has been succeeded by A. Milne & Son.

That burglars blew open the safe in H. M. Fuos' Hardware store at Castroville, Texas, on the 20th ult., and got away with $200.

That the firm of Dilley, Connolly & Mansfield, Hardware merchants, Tyler, Texas, was dissolved on the 18th ult. by mutual consent. F. L. Dilley will continue the Hardware branch of the business, while Messrs. Connolly and Mansfield will engage in the Machinery and Implement business.

That the Hardware store of O. H. Tebay, Leechburg, Pa., was robbed on the 22d ult. The safe was blown open.

That Walter Fisk is thinking of starting a Hardware store at East Kendall, N. Y.

That the John B. Varick Hardware Company, Manchester, N. H., who were the victims of a destructive fire some months since, expect to be in their new quarters by the middle of February or March 1 at the latest.

That the Webber Hardware Company of La Porte, Ind., have been incorporated under the laws of Indiana.

That O. H. Lawrence is closing out his Hardware business at Waverly, N. Y., and intends to devote his entire attention to the manufacture of the O. K. Patent Elbow, of which he is the inventor.

That George W. Peck of Bath, N. Y., and W. E. Cook of Pulteney, have begun the erection of a building at Bradford, N. Y., wherein they will conduct a Hardware business under the firm name of George W. Peck & Co. This will make the fifth store in the county in which Mr. Peck is interested.

Price-Lists, Circulars, &c.

THE STUART & PETERSON COMPANY, Philadelphia, Pa.: Plain, Bright, Tinned and Enameled Hollow Ware, Ice Cream Storage Cans, Hardware Specialties, Refrigerator Tanks, Cooler Wells, Furnaces, Ranges, &c. Their catalogue, No. 26, has prices and illustrations of Golden Crown Ware, Enameled Hollow Ware, Tinned Hollow Ware, Plain and Bright Hollow Ware, Waffle Irons, round and hotel; Coffee Roasters, Cast-Iron Enameled Covers, Vanilla Bean Boilers, Icing Bowls, Mortars and Pestles, Evaporaring Dishes, Glue Pots, Spittoons, Caldrons, Charcoal Furnaces, Ranges, &c.

WIARD PLOW COMPANY, Batavia, N. Y.: Plows, Sulky Plows, Sulky Hay Rakes, Hand-Corn Planters, &c. Plows are shown in their catalogue, in hand and sulky, chilled iron and steel for flat land or side hills. The manufacturers remark that their works now cover three acres of ground, and contain fully 50 per cent. more capacity, both in room and power, than ever before.

SARGENT & CO., New Haven, Conn., and New York: Hardware for Screen Doors and Windows. Their catalogue of these goods for the season of 1893 illustrates and describes, with prices, Spring Hinges, Door Springs, Screen-Door Brackets, Screen-Door Catches, Screen-Door Check, Window Screen Pulls or Sash Lifts, Door Pulls, &c.

THE DEMING COMPANY, Salem, Ohio: Hand and Power Pumps. A metallic end hanger, 24 x 34 inches, showing a large variety of Pumps, each being designated by number. Their line of goods include Hand and Power Pumps, Hydraulic Rams, Artesian Well Pumps and Cylinders, Well Tools, &c. The hanger is handsomely finished in colors and shows near the top a view of the Deming Company's Works.

W. B. BELKNAP & CO., Louisville, Ky.: Spring trade catalogue, No. 9, 1893. The goods shown and described include Sporting Goods, Freezers, Fish Hooks, Trolling Bates, Lines, Reels, Rods, Fishermen's Accessories, Nets, Hammocks, Revolvers, Seed Sowers, Pruning Shears, Lawn Mowers, Screen Doors, Window Screens, Spring Hinges, Screen Door Latches, Door Pulls, Fly Traps, Fly Fans, Sheep Shears, Dog Collars, Horse and Toilet Clippers, &c. An alphabetical index of contents is given on the front cover, with pages on which the various articles may be found.

SARGENT & CO., New Haven, Conn., and New York: Cylinder Locks and Latches. An 1893 circular illustrates Cylinder Rim Night Latches, Cylinder Mortise Night Latches, Cylinder Easy-Spring Front Door Locks, and Store Door Handles with Cylinder Locks. Descriptions and prices accompany illustrations.

CORDLEY & HAYES, 173-175 Duane street, New York: Sole agents for Indurated Fiber Ware. Their catalogue illustrates a full line of these goods, with prices. It is remarked that for the past two years the output of Indurated Fiber Ware has been constantly increasing, and at necessarily a large saving in the cost of manufacture. Arrangements have been made for still further very largely increasing this output and reducing the cost of the goods, the results being shown in the price list.

W. S. HAMMOND, Lewisberry, Pa.: Hammond's Window Sash Springs. Illustrations and descriptions are given of these goods, showing the manner in which they support the sashes when open and lock them when closed They are made in sizes and styles to suit all windows, and are recommended by the manufacturer for use in the shop, office, dwelling, school, church, &c. The point is made that they are equally well adapted to support the sashes of the attic window and to lock those of the parlor.

FOWLER & SONS, Anderson, Ind.: Bolts and Nuts, Coach Screws, &c. This catalogue is handsomely printed, the goods being arranged in departments, with an index running through the entire book giving the kind of goods found in each department. Illustrations in colors show samples of the labels which are used on the packages of their various Bolts Nuts, Coach Screws, &c. The quantity, kind and sizes of the goods are made prominent on the labels, so as to be plainly seen. Views are given of their works at Anderson and of their warehouse at Buffalo.

STEAM GAUGE & LANTERN COMPANY, Syracuse, N. Y., and Chicago: Standard Tubular Lamps and Lanterns. An illustrated circular shows their various styles of Tubular Lanterns, Dash Lamps, Driving Lamps, Dash Board Reflector Attachment, Ornamental Brackets for Street Lamps, &c.

JOS. DIXON CRUCIBLE COMPANY, Jersey City, N. J., and 68 Reade street, New York: Dixon's American Graphite Pencils and Dixon's Felt Erasive Rubbers. The catalogue, which has an artistic cover, describes over 500 styles of pencils made by the company and illustrates all of their leading styles.

IRVING W. FOX, Rochester, Minn.: The Rochester Sliding Table Saw, Rochester Tilting Table Saw, Tornado Tank Pump, &c. The Saws are designed for cutting up cord wood, logs and poles, and the Pump for steam thresher use.

BUTTS & ORDWAY, Boston, Mass.: Heavy Hardware. Their 1893 supplement, No. 1, to catalogue No. 3, 1891, shows goods which they manufacture as well as some others they handle exclusively. The goods manufactured by them are the Sure Grip Vise, Sure Grip Upsetter, Finished Milk Wagon Step, Hub Thill Spring and Pung Shackle. The other goods shown are the Bowe Spoke Extractor, the B. & O. Anvils, Boston Tire Benders, Warner, Star and Shell Band Wheels and Sarven Wheels.

GURNEY REFRIGERATOR COMPANY, Fond du Lac, Wis.: Illustrated catalogue and price-list of the Gurney Patent Refrigerators. This catalogue comprises 56 pages, beginning with a description of the special features of the Gurney Refrigerator, such as the removable galvanized ice compartment, the system of air circulation, secured in its method of construction, the location of drip pipe to secure best results, the arrangement of walls for successful refrigeration, illustrations of the Hardware used and comparisons of heat-conducting power of filling materials. The Refrigerators illustrated and described cover domestic constructions of all varieties and styles from chests to sideboards, together with small styles for nursery use, narrow and tall ones for apartment houses, beer and ale coolers for saloons, large and very capacious Refrigerators for restaurant or florists' use, grocery stores or hotels, &c. The line of Sideboard Refrigerators shown is exceedingly creditable to the company, being unusually varied and exceptionally attractive in appearance. The Gurney Refrigerator Wagon for the use of marketmen occupies a conspicuous position in the catalogue.

BELL, BARKER & JENNINGS, Lynchburg, Va.: Manufacturers' agents and exclusive jobbers of Hardware, Cutlery, Guns, Engineers' and Miners' Supplies, Paints, Oils, Glass, Wooden Ware, &c. Their catalogue under date January, 1893, gives an alphabetically arranged list of such goods as they carry in stock, designed for the use of customers in making up orders. They have, recently moved into a new storehouse, where they have facilities for the prompt and careful handling of their business.

STAR MACHINE COMPANY, Buffalo, N. Y., Portable Forges, Hand and Power Blowers. Illustrations and descriptions of these goods are given in their catalogue. Their Portable Forges and Blacksmiths' Hand Blowers, the manufacturers state, have few working parts, the large band wheel being the only one in its construction. This is driven by the rack, which is moved up and down in the guides attached to the legs of the machine, and which engages with the pinion on the clutch hanging on the same shaft—which is stationary—as the band wheel. Any wear of the pinion and rack can be taken up by means of set screws, and the lever is hung on a swivel, thereby enabling the worker to move about on a considerable radius while working.

FRED NOURSE COMPANY, New York: Steel Wire and Steel Springs. Their catalogue contains lists and tables of Bessemer and Cast Steel Wire, Drill and Needle Steel Wire, Round Hair-Spring Wire, Iron Wire, Annealed Stone and Weaving Wire, Tinned, Plated Covering, Gun Screw, Tinned Stone, Tinned Broom, and Piano Pin Wire, Polished Drill Rods, Tempered Round Cast-Steel Wire, Tempered Wire, &c. Illustrations and prices are given of a variety of Springs manufactured by them.

H. D. EDWARDS & CO., Detroit, Mich., sole agents for the Hartz Block: This is a Steel Tackle Block, designed for all purposes—for vessels, mines, derricks, railroads, &c. They are referred to as light, strong and handsome, with the straps inside the shell, made from a superior grade of wrought steel, carefully japanned or galvanized. An 1893 catalogue shows the Block in a variety of styles and sizes, with descriptions, prices and telegraph code. These goods, it is claimed, can be purchased at about Wooden Block prices.

ST. LOUIS STAMPING COMPANY, St. Louis, Mo.: Proprietors Granite Iron Rolling Mills, manufacturing Tin and Terne Plates, Fine Galvanized Iron, &c., Western branch of the Central Stamping Company. A catalogue just issued containing 384 pages, gives views of the office and factory of the St. Louis Stamping Company, also of their plate works and rolling mills. The department index shows the arrangement of the catalogue into departments, which are as follows: Black and Polished Iron Ware, Blue and White Enameled Ware, Coal Hods, Dripping Pans, Deep Stamped Ware, Galvanized Sheet Iron, Galvanized Ware, Hotel Ware, Imperial Iron Ware, Enameled, Japanned Ware Metals, Metallic Sieves, miscellaneous goods, miscellaneous Tinners' Supplies, Patent Granite Iron Ware, Pieced Tinware, Polished Tinware, Shallow Stamped Ware, Stamped Spoons, Stamped Trimmings, Tables, Tinners' Stock, Tinners' Tools and Machines and Toys. Illustrations and prices of these goods are given.

THE EMERSON & FISHER COMPANY, Cincinnati, Ohio: Vehicles manufactured for the trade. Their 1893 catalogue contains illustrations of Buggies, Carts, Surries, Cabriolets, Spring Wagons, Buckboards, &c., in different grades and trimmings. The firm have been in business 21 years.

THE DEMING COMPANY, Salem, Ohio: Pumps and Well Supplies. The company send with their compliments a Daily Re-

minder for 1893, well bound in leather, including calendar, diary and memorandum combined. Date sheets for 1893 and 1894 are found on the inside of the front and back covers. Attention is called to their line of Iron and Brass Pumps, Hydraulic Rams, &c.

E. C. STEARNS & Co., Syracuse, N. Y.: Stearns High-Wheel Lawn Mower. The company issue a humorous illustrated circular representing by sketchy pictures the positions which a person may assume in using an undesirable Mower, and contrasting them with the pleasing attitude of one using their High-Wheel Machine. Appropriate text accompanies and explains the illustrations.

THE HANRAHAN REFRIGERATOR COMPANY, Northville, Mich.: Refrigerators. Two general styles or classes are manufactured by this company, known as the Table Top and the Automatic. The Table Top is furnished with a hardwood table top about as high as a kitchen table, and made in five sizes, Nos. 1 to 5. The Automatic is made in seven sizes, Nos. 10 to 16, for use by larger families, hotels, restaurants, &c. All Refrigerators are built on the Hanrahan's Automatic System of Refrigeration, which, it is claimed, insures perfect insulation. The company have been making improvements in all styles of their goods, which are illustrated and described in their catalogue.

THE PEERLESS MFG. COMPANY, Cleveland, Ohio: Wringers. Illustrations are given of the Peerless, Metropolitan, Perfection, Acme, New Buckeye, Cyclone, Laundry and Power Wringers, also of the Amazon Bench Wringer. The manufacturers state that the workmanship of their machines is of the highest order, all parts being nicely and closely matched; and that the goods now being turned out by them are of a better quality in every respect than heretofore.

COLUMBIAN MFG. COMPANY, Cincinnati, Ohio: The Columbian Joist Leveler. The Leveler is designed for rapidly and easily adjusting or leveling joists, beams and girders properly while the building is in course of erection. The manufacturers have recently brought out a new size of Leveler, stronger and heavier than the No. 2.

THE BUCHER & GIBBS PLOW COMPANY, Canton, Ohio: Steel Chilled and Combination Hand, Gang and Sulky Plows, Harrows and Land Rollers. Illustrations, prices and descriptions of these goods are given in an 87-page catalogue. The product of their Imperial series of Plows is referred to as having increased from one size to 12, and to kinds adapted to all plowing, gravel and sandy soils, prairie and alluvial soils.

Athol Machine Company's Catalogue.

ATHOL MACHINE COMPANY, Athol, Mass., iron founders and manufacturers of Hardware specialties, issue a catalogue under date January 1, 1893, and advise the trade that they have made arrangements with the Standard Tool Company for the exclusive sale of their fine tools. Their general catalogue combines both lines, and is designed to supersede all previous catalogues of the Standard Tool Company and of the Athol Machine Company. Illustrations are given of American Meat Choppers, Starrett's Domestic Press, Iron Grindstone Frame, Wright's Animal Tether, Simpson Vises, Amateur Vises, Chaplin Try and Center Square, Hardened Steel Squares, Center Gauges, Surface Gauge, Center Square, Beam Micrometer, Bevel Protractors, Spring Calipers, Joint Calipers, Combination Divider and Caliper, Rapid-Transit Wrench, Richardson's Levels, Adjustable Bench Levels. Special attention is directed to several new tools and specialties.

Exports.

THE EXPORTS from the port of New York to foreign markets for the week ending January 28, 1893, exclusive of specie, amounted to $6,318,225. The following are the exports of Hardware, Machinery, Metals and related goods. The totals following each port or country indicate the aggregate value of exports to such port or country exclusive of specie. The items for Canada and Mexico include merchandise by seagoing vessels only:

Antwerp. ($359,468.)—Cartridges, $65.—Agl. Imp., $50.—Manufactd Iron, $56.—Machinery, $3800.—Scythe Stones, $355.—Hardware, $470.—Elect. Matl. $1768.—Firearms, $2400.—Whips, $31.—Lamp Goods, $107.

Amsterdam. ($13,056.)—Machinery, $1332.—Hardware, $400.—Sewing Machines, $3284.

Aberdeen. ($151.)—Machinery, $154.

Argentine Republic. ($46,931.)—Agricult. Implts., $165.—Plated Ware, $310.—Lamp Goods, $60.—Twine, $900.—Casters, $220.—Hardware, $658.

British Guiana. ($29,049.)—Sewing Machines, $55.—Piano, $750.—Elec. Matl., $3500.—Coal, $50.

Australia. ($231,707.)—Hardware, $12,052.—Manufd Wood, $2476.—Manufd Iron, $2952.—Machinery, $2016.—Plated Ware, $1414.—Pumps, $790.—Clocks, $1029.—Firearms, $191.—Oilstone, $185.—Shears, $18.—Cutlery, $130.—Tacks, $559. Nails, $180.—Wagons, $360.—Typewriters, $35.—Brushes, $216.—Slates, $115.—Windmills, $400.—Beehives, $45.—wringers, $69.—Wheels, $200.—Watches, $8000.—Lamp Goods, $5815.—Carriage Material, $4677.—Tinware, $1119.—Rubber Goods, $445.—Woodware, $1500.—Agricult. Implts., $1738.—Scales, $263.—Valves, $2749.—Nails, $1395.—Bird Cages, $303.—Cartridges, $1867.—Sandpaper, $1025.—Roofing Slate, $1030.—Carriage, $100.—Brass Goods, $30.—Railroad Velocipedes, $1480.—Razor Strops, $57.—Thermometers, $180. Sewing Machines, $666.—Organs, $168.—Carts, $44.

British Possessions in Africa. ($35,846.)—Woodware, $779.—Hardware, $1220.—Cartridges, $334.—Carriage Matl., $950.—Wagons, $212.—Saws, $33.—Cages, $68.—Railroad Velocipedes, $175.—Lamp Goods, $6.—Agricult. Implts., $3662.—Manufd Wood, $5217.—Nails, $612.—Slates, $38.—Organs, $750.—Windows, $550.—Doors, $370.—Freezers, $9.

Bradford. Hardware, $55.

Berwick. Sewing Machines, $223.

Bremen. ($115,534.)—Physical Appliances, $150.—Watch Movements, $120.—Manufd Wood, $775.—Metal Boxes, $350.—Agricult. Implts., $7.—Hardware, $269.—Opt. Goods, $300.—Rubber Goods, $2000.

Berlin. ($665.)—Woodware, $403.

Bolivia. ($5885.)—Rubber Goods, $394.—Machinery, $1155.—Car Matl., $117.—Manufd Iron, $3500.

Brazil. ($206,062.)—Hardware, $1998.—Manufd Iron, $667.—Lamp Goods, $898.—Sewing Machines, $4859.—Manufd Steel, $58.—Agricult. Implts, $444.—Pumps, $660.—Twine, $685.—Barrows, $88.—Saws, $28.—Per. Caps, $25.—Tinware, $170.—Math. Insts., $150.—Plated Ware, $668.—Clocks, $60.—Scales, $1250.—Plumb. Matl., $2686.—House, $18,984.—Coal, $600.—Manufd Wood, $206.—Tricycles, $144.—Machinery, $1383.—Electrical Goods, $3435.—Baby Carriages, $738.—Sandpaper, $36.—Cutlery, $339.—Firearms, $220. Rubber Goods, $5.—Cotton Lines, $8.—Woodware, $28.—Car Matl., $83.—Survey Insts., $3495. Typewriter, $75.—Musical Insts., $768.—Trunks, $79.

British West Indies. ($141,586.)—Manufts. of Iron, $1893.—Electric Material, $368.—Valves, $95.—Sewing Machines, $97.—Tinware, $32.—Carts, $85.—Woodware, $3.—Rubber Goods, $155.—Railroad Material, $1,771.—Musical Instruments, $31.—Clocks, $42.—Pumps, $52.—Iron, $11.—Cutlery, $10.—Coal, $700.—Agricult. Implements., $50.—Twine, $20.—Boiler, $202.—Piano, $450.—Lubricators, $17.—Baby Cabs, $27.—Wheels, $86.—Hardware, $324.—Manufd Wood, 301.—Lamp Goods, $153.—Carriage Material, $125. Oil Tank, $96.—Machinery, $2857.—Wagon, $225.—Trunks, $48.—Fire Engines, $560.—Springs, $35. Closet, $20.—Watches, $52.—Plated Ware, $2.—Carriages, $810.—Nails, $41.—Refrigerators, $65. Tacks, $8.—Money Drawers, $500.—Builders' Material, $33.—Organs, $52.—Manufd Copper, $16. Store Truck, $13.—Needles, $10.—Saws, $5.—Carriage Material, $21.—Nails, $61.

British Honduras. ($10,607.)—Manufd Wood, $91.—Sewing Machines, $158.—Hardware, $135.—Firearms, $20.—Tinware, $6.—Manufd Iron, $31.—Scales, $10.—Trunks, $69.—Cutlery, $45.—Nails, $43.—Twine, $28.—Woodware, $6.—Cartridges, $15.

Canada. ($14,031.)—Machinery, $148.

Cuba. ($510,802.)—Manfd wood, $1985.—Machinery, $27,080.—Cars, $4738.—Scales, 2035.—Emery Wheels, $48.—Sugar Wagons, 6681.—Gas Meters, $500.—Iron Pipe, $4699.—Valves, $27.—Railroad Matl., $7248.—Nails, $230.—Hoes, $113.—Eyelets, $122.—Propelier Wheel, $200.—Cutlery, $6063.—Crucibles, $20.—Saws, $118.—Belting, $720.—Tinware, $284.—Microscope, $71.—Packing, $517.—Wheels, $21.—Cash Registers, $75.—Bushings, $150.—Baby Carriages, $150.—Showcases, $208.—T. Rock Blocks, $260.—Switch Boards, $60. Blocks, $123.—Grindstone fixts., $11.—Bicycles, $30.—Per. Caps, $180.—Car Matl., $25.—Car Bodies, $3600.—Emery Cloth, $80.—Steel, $12.—Powder, $58.—Tiles, $385.—Thermometers, $23.—Cge. Matl., $39.—Boiler Com., $77.—Boiler Tubes, $336.—Hardware, $12,901.—Manufd Iron, $20,9 9.—Lamp Goods, $846.—Typ. w. material, $17.—Pumps, $661.—Agricult Impits, $2214.—Rubber Goods, $631.—Wheels, $8.—Sugar Wagons, $2175. Elect. Matl., $5163.—Trunk Matl., $687.—Nails, $695.—Coal, $1462.—Iron Safes, $350.—Copper, $638.—Sewing Machs., $59.—Packing, $42.—Brass Goods, $238.—Brushes, $365.—Twine, $89.—Rope, $617.—Locomotive, $9750.—Wheels and Axles, $84.—Spikes, $550.—Iron, $2410.—Building Matl., $2565.—Tugboat, $2309.—Cart Matl, $490.—Clocks, $956.—Wagon Matl., $99.—Plated Ware, $307.—Oilers, 142.—Bellows, $90.—Woodenware, $537.—Figures, $15.—Velocipedes, $104.—Washers, $955.—Trunk Slats, $9.—Pins, $53.—Tacks, $79.—Store Trucks, $13.—Loco. Cab, $152.—Die Stocks, $190.—Coffin Matl., $75.—Polariscope, $150.

Chili. ($37,185.)—Scales, $598.—Manufd Iron, $814.—Coffins, $130.—Woodware, $6.—Showcase, $24.—Trunks, $97.—Cutlery, $18.—Plated Ware, $1083.—Hardware, $1158.—Nails, $5363.—Lamp Goods, $190.—Agricult. Imolts, $2374.—Organ, $75.—Bicycle, $110.—Sew. Machines, $137.—Machinery, $80.—Pumps, $87.—Saws, $20.

Copenhagen. ($99,819.)—Rubber Goods, $395.—Wash. Machs., $15.—Hardware, $122.—Brit Ware, $180.—Machinery, $1474.—Organs, $90.—Wringers, $71.—Manufd Wood, $23.—Clocks, $17.—Agricult. Impits., $5135.—Manuft. Iron, $277.

Constantinople.—Lamp Goods, $205.

Charkow.—Agricult. Impits., $571.

Central America. ($79,864.) Hardware, $2602.—Manufd Wood, $149.—Lamp Goods, $285.—Scales, $88.—Agricult. Impits, $475.—Freezers, $112.—Machinery, $4415.—Electrical Matl, $2855.—Nails, $174.—Iron Safes, $199.—Lathes, $40.—Tinware, $18.—Roofing Matl, $18.—Candlesticks, $26.—Plumbers' Matl, $90.—Plated Ware, $24.—Sandpaper, $21.—Trunks, $26.—Coal, $875.—Coffins, $40.—Clocks, $238.—Carpet Sweepers, $6.—Grindstones, $12.—Emery Wheels, $10.—Manufd Steel, $99.—Whip, $2.—Musical Insts, $15.—Trunks, $33.—Carbons, $360.—Agate Ware, $40.—Manufd Copper, $130.—Scales, $22.—Brushes, $12.—Twine, $22.—Manufd Iron, 4879. Firearms, $203.—Sewing Machines, $1099.—Brushes, $170.—Grindstones, $3.—Rubber Goods, $912.—Cutlery, $578.—Sewing Machine Matl. $10.—Blocks, $74.—Carriage Matl, $203.—Saws, $11.—Woodware, $170.—Water Wheel, $27.—Carts, $177.—Washita Stone, $21.—Tobacco Granulator, $48.—Iron, $133.—Valves, $75.—Tacks, $8.—Zinc, $0.—Cartridges, $702.—Piano, $200.—Mimeograph, 26.—Crucibles, $54.—Percussion Caps, $92.—Twine, $66.—Wire Goods, $34.—Pumps, $131.—Hollow Ware, $95.—Showcase, $115.—Engine Hose, $30.—Spikes, $157.—Packing, $54.—Belting, $15.

Christiania. ($62,880.)—Machinery, $214.—Agl. Implts., $45.—Manufd Wood, $58.—Hardware, $113.—Firearms, $12.—Money Drawers, $900.—Clocks, $381.—Plated Ware, $101.—Wringers, $62.—Scythe Stones, $14.

Dutch Guiana. ($1995.)—Rubber Goods, $145.—Trunks, $30.—Hardware, $75.

Danish West Indies. ($10,197.)—Machinery, $590.—Manufd Iron, $99.—Nails, $78.—Pumps, $170.—Hardware, $14.—Agl. Implts., $9.—Tinware, $6.—Steam Traps, $110.—Lamp Goods, $3.—Brass Goods, $47.—Iron Pipe, $35.—Windmill, $30.

Dutch West Indies. ($2848.)—Woodware, $3.—Hardware, $6.

Dutch East Indies. ($41,517.)—Hardware, $205.—Cutlery, $263.—Wheels, $30.—Carriage, $124.—Razor Strops, $24.—Clocks, $870.—Firearms, $92.

Ecuador. ($13,693.)—Cutlery, $1060.—Scales, $189.—Sew. Mach., $108.—Nails, $8.—Elect. Matl., $585.—Lamp Goods, $85.—Manufd Iron, $1043.—Sandpaper, $185.—Plated Ware, $325.—Trunks, $14.—Rubber Goods, $48.—Machinery, $58.—Hardware, $288.—Saws, $12.—Twine, $206.

French West Indies. ($15,548.)—Lamp Goods, $42.—Sewing Machines, $144.—Whips, $25. Manufd Iron, $225.—Carriage Material, $17.—Agricult. Imolts, $78.—Plated Ware, $20.—Clocks, $40.—Freezers, $15.—Wheels, $87.—Hardware, $22.

French Possessions in Africa. ($305.)—Hardware, $34.—Pumps, $71.

Glasgow. ($186,279.)—Manufd Iron, $31.—Handle Stuff, $900.—Cabinets, $109.—Machinery, $660.

Gibraltar. ($227.)—Gun Primers, $149.—Hardware, $78.

Hull. ($219,182.)—Typewriters, $213.—Belting, $165.—Clocks, $701.—Hardware, $1768.—Machinery, $300.—Manufd Wood, $451.—Sandpaper, $89.—Firearms, $75.—Agricult. Implts., $13,155.—Crucibles, $200.—Ice Cream Freezers, $43.—Lamp Goods, $156.

Havre. ($886,467.)—Manufd Wood, $50.—Skates, $2285.—Emery Wheels, $128.—Bobbins, $109.—Clocks, $1995.—Electric. Matl., $450.—Crucibles, $45.—Agricult. Implts., $1492.—Machinery, $3667.—Rubber Goods, $1522.—India Rubber, $93,076.—Typewriters, $1155.—Signs, $675.—Sewing Machines, $1370.—Hardware, $1918.

Hamburg. ($463,512.)—Manufd Iron, $369.—Agricult. Implts, 2864.—Manufd Wood, $848.—Piano Parts, $300.—Scythe Stones, $22.—Wringers, $146.—Whetstones, $25.—Copper, $7000.—Sewing Machines, $10,856.—Cutlery, $495.—

Freezers, $17.—Britannia Ware, $145.—Pumps, $13.—Mineral Fiber, $850.—Lamp Goods, $10.—Copper, $13,500.—Wagons, $1006.—Machinery, $4442.—Metal Goods, $15.—Hardware, $2916.—Organs, $1350.—Emery, $7.—Firearms, $1263.—Rubber Goods, $2.56.—Skates, $75.—Carpet Sweepers, $215.—Plated Ware, $1019.—Clocks, $80.

Hayti. ($249,664.)—Anchors, $80.—Cutlery, $1143.—Hardware, $876.—Building Material, $100.—Scales, $236.—Carriages, $900.—Solder, $29.—Iron, $18.—Lamp Goods, $2765.—Manufd Wood, $55.—Hose, $12.—Brushes, $11.—Oil Cabinets, $30.—Tinware, $41.—Whips, $4.—Machinery, $195.—Showcases, $19.—Trunks, $43.—Wheels and Axles, $75.—Iron Pipe, $165.—Trunk Material, $17.—Compass, $7.—Clocks, $12.—Sandpaper, $11.—Manufd Iron, $286.—Wire Goods, $31.—Nails, $306.—Carriage Material, $45.—Steel Plates, $538.—Sign, $9.—Iron, $88.—Fishing Lines, $50.—Cart, $18.—Grindstones, $10.—Sewing Machines, $530.—Iron Safes, $107.—Woodware, $78.—Yellow Metal, $34.—Pumps, $106.—Ship Chandlery, $19.

Lisbon. ($73,332.)—Machinery, $32.

Liberia. ($1513.)—Lamp Goods, $15.—Typewriters, $78.—Hardware, $26.—Organ, $52.

London. ($482,009.)—Hardware, $1517.—Electrical Matl, $1,891.—Machinery, $3163.—Sleigh, $100.—Surg. Insts, $436.—Stencils, $114.—Sandpaper, $67.—Zinc Trimmings, $3400.—Skates, $229.—Sewing Machines, $9439.—Carriage, $351.—Manufd Wood, $4 56.—Cab. Wood, $900.—Wire Rope, $564.—Pumps, $57.—Woodware, $41.—Rubber Goods, $410.—Cartridges, $164.—Mfrs of Iron, $50?.—Telescope, $50.—Piano, $400.—Typewriters, $3654.—Scales, $236.—Freezers, $30.

Liverpool. ($1,148,116.)—Copper Matte, $9000.—Hardware, $2508.—Copper, $5400.—M. Rollers, $106.—Machinery, $8117.—Sewing Machines, $794.—Typewriters, $155.—Optical Goods, $38.—Manufd Iron, $45.—Pumps, $1246.—Emery Wheels, $240.—Rubber Goods, $510.—Tin Screw Tops, $800.—Min. Fiber, $210.—Woodware, $429.—Nickel Oxide, $5438.—Brass Goods, $65.—Fishing Tackle, $30.—Shears, $200.—Belting, $28.—Manufd Wood, $7078.—Bird Cages, $275.—Oxide Zinc, $840.—Agricult. Impits, $420.—Sandpaper, $1000.—Lamp Goods, $10.—Nails, $76.—Clocks, $3803.—Ore, $14,025.—Money Drawers, $250.—Organs, $1500.—Electrical Material, $2975.—Gas Burners, $76.—Carriage Material, $10,150.—Spelter, $1317.

Moscow. Agricult. Impits, $1123.

Milton. Aluminum, $630.

Mexico. ($104,282.)—Nails, $36.—Plumbing Matl, $129.—Woodware, $140.—Lead, $126.—Fuse, $1428.—Copying Presses, $2590.—Bellows, $15.—Powder, $25.—Cot. Cords, $30.—Manufd Iron, $1789.—Twine, $283.—Bicycles, $200.—Iron Ware, $27.—Clocks, $40.—Rubber Goods, $105.—Brushes, $40.—Shot, $ 6.—Scales, $501.—Wire Goods, $ 0?.—Boat, $100.—Piano, $175.—Tinware, $ 58.—Carriage Matl, $177.—Electrical Matl, $1736.—Cartridge Shells, $614.—Packing, $3.—Car Bodies, $1338.—Building Matl, $70.—Tanks, $22.—Shells, $37.—Freezers, $7.—Pig Iron, $775.—Store Trucks, $319.—Grindstones, $77.—Iron Pipe, $220.—Zinc, $48.—Sandpaper, $50.—Tin, $619.—Hardware, $6551.—Manufd Wood, $61.—Lamp Goods, $793.—Firearms, $1264.—Machinery, $4093.—Spikes, $36.—Pumps, $573.—Manufd Copper, $228.—Cartridges, $929.—Percussion Caps, $253.—Cutlery, $1?99.—Barrows, $241.—Railroad Matl, $320.—Whips, $9.—Agricult. Impits, $3 3.—Velocipedes, $2.—Tacks, $87.—Slates, $49.—Sewing Machines, $2365.—Trunk Matl, $76.—Iron Safes, $325.—Bell Cord, $82.—Babbitt Metal, $835.—Iron, $259.

Nova Scotia. ($7,331.)—Agricult. Impl $521.—Coal, $670.

Newcastle. ($83,293.)—Tinware, $25.—Electrical Material, $2220.—Manufd Wood, $126.—Mach nery, $1031.—Agricult. Impits, $88.—Hardware, $108.

New Zealand. ($52,246.)—Manufd Iron, $1912.—Sandpaper, $80.—Hardware, $4 64.—Copper, $ 2.—Pumps, $43.—Carpet Sweepers, $10.—Lamp Goods, $481.—Woodware, $955.—Wringers $472.—Firearms, $95.—Sewing Machines, $460.—Machinery, $1?.—Scales, $30.—Grindstone Fixtures, $10.—Twine, $23.—Tacks, $14.—Clocks, $10.—Money Tills, $170.—Manufd Wood, $1687.—Hickory; $13.—Nails, $19.—Thermometers, $5.—Rubber Goods, $60.—Carriage Material, $ 12.—Carriages, $45?.—Tinware, $173.—Agricult. Impits, $450.—Nails, $94.—Sash Cord, $45.—Cartridges, $129.—Roof Slate, $440.—Organs, $1302.—Store Trucks, $54.—Loaded Shells, $80.—Stone, $10.—Whips, $51.—Brushes, $54.—Electro-Plated Ware, $65.—Typewriters, $253.—Plated Ware, $283.

Odessa. Agricult. Impits, $45.

Portuguese Possessions in Africa. Machinery, $932.

Philippines. ($1050.)—Lamp Goods, $530.—Carriage Material, $78.

Porto Rico. ($9,192.)—Hardware, $454.—Manufd Iron, $922.—Machinery, $30,146.—Nails, $16.—Carriage Matl, $6.—Scales, $427.—Agricult. Impits, $180.—Water Closet, $25.—Torches, $107.—Brass Goods, $31.—Manufd Wood, $14.—Lamp Goods, $49.—Plated Ware, $5.—Woodware, $43.—Copper, $23.—Rubber Goods, $75.—Pumps, $41.—Saws, $6.—Trunk Matl, $25.—Boat, $200.

Peru. ($7580.)—Cutlery, $29.—Manufd Iron, $176.—Lamp Goods, $167.—Plated Ware, $11.—Sandpaper, $18.—Cotton Gins, $22.—Refrigerators, $92.—Hardware, $575.—Nails, $5.—Firearms, $94.—Agricult. Impits, $81.—Rubber Goods, $31.—Perf Copper, $35.—Sewing Machines, $ 0?.—Woodware, $82.

Rotterdam. ($238,009.)—Typewriters, $105.—Machy, $106.—Tin Scraps, 295.—Firearms, $35.—Hardware, $430.—Wringers, $186.—Agricult. Impits., $299.—Manufd Wood, 8.—Copper $15,036.—Spelter $900.—Electro Plates, $13,559.—Cartridges, $42.—Whetstones, $30.

Stettin. ($40,042.)—Agricult. Impits., $3425.

Stockholm. ($5923.)—Steel Balls, $300.—Organ Material, $2 2.

San Domingo. ($11,367.)—Hardware, $711.—Manufd Iron, $2058.—Sewing Machines, $181.—Agricult. Impits, $158.—Pumps, $37.—Firearms, $875.—Nails, $20.—Nails, $360.—Brushes, $15.—School Supplies, $40.—Coal, $142.—Twine, $17.—Pipes, $34.—Scales, $13.—Trunk Matl, $68.—Lamp Goods, $250.—Machinery, $147.—Cutlery, $241.—Tinware, $368.—Tank Matl, $35.—Nails, $12.—Rubber Goods, $52.—Coal, $4.—Slates, $6.—Car Matl, $62.—Cuspidors, $12.—Woodware, $14.

United States of Colombia. ($93,287.)—Hardware, $3403.—Manufd Wood, $109.—Powder $252.—Sewing Machines, $2222.—Mus. Insts, $8.—Electrical Matl, $983.—Machinery, $878.—Clocks, $395.—Wire Cloth, $127.—Pianos, $771.—Roofing Matl, $225.—Cutlery, $1804.—Wire Goods, $44.—Trunk Matl, $ 0.—Organs, $75.—Plated Ware, $9.—Railroad Cars, $7000.—Silver Ware, $278.—Woodware, $109.—Sewing Machine Matl, $11.—Belting, $20.—Piano Making Matl, $50.—Agricult. Impits, $70.—Gun Supplies, $107.—Freezers, $18.—Trucks, $140.—Tacks, $15.—Zinc, $120.—Brushes, $59.—Manufd Iron, $2743.—Lamp Goods, $282.—Rubber Goods, $ 82.—Telegraph Matl, $85.—Scales, $134.—Cartridges, $59.—Sandpaper, $29.—Shot, $16.—Saws, $106.—Sewing Machine Needles, $47.—Spikes, $15.—Pumps, $244.—Tinware, $255.—Plumbing Matl, $9?.—Iron Pipe, $10.—Trunks, $51.—Eng. Insts., $70.—Phonograph, $750.—Firearms, $160.—Wheels and Axles, $257.—Exploders, $16.—Percussion Caps, $5.—Nails, $51.—Fish Lines, $142.—Boat Matl, $154.—Nails, $7.—Signs, $60.—Iron Caldrons, $190.

Venezuela. ($11,660.)—Manufd Iron, $64.—Scales, $35.—Sandpaper, $ 5.—Anchors, 14.—Twine, $678.—Car Matl, $25.—Clocks, $42.—Rubber Goods, $42.—Hardware, $391.—Lamp Goods, $38.—Machinery, $474.—Wheelbarrows, $3?.—Cutlery, $118.—Tinware, $41.—Tacks, $22.—Pumps, $9.—Zinc, $29.—Oil Cups, $60.

Vienna. ($425.)—Hardware, $68.—Pumps, $167.—Agricult. Impits, $180.

Walsall. Organ, $30.

Zurich. ($1654.)—Rubber Goods, $170.—Organs, $160.

Lamp Catalogue.

HOLMES, BOOTH & HAYDENS 25 Park Place, New York, and Waterbury, Conn., have recently issued catalogue No. 7, consisting of 221 pages, 14 x 7 inches, devoted almost entirely to Lamps and Lamp Fixtures, including an extensive assortment of Library, Hall, Banquet and Extension Piano Lamps, with or without tables. Also Extension Study and Table Lamps, Lamp Founts, Hand Lamps, Spring Candlesticks, Brackets and Paper Cutters. Among art goods may be found a number of brass and gold bronze Tables.

They are also manufacturing many Electric Light Fixtures and Brass Fans for electric motors. The volume is well arranged and nicely printed, an engraving of their works being given on the back cover. With each book are sent two folders handsomely printed, in color, being a *facsimile* of the goods, showing the Leader and Star assortments, and fully describing them.

GEO. F. EBERHARD, president of the Geo. F. Eberhard Company, who have offices at San Francisco, Portland and Sydney, and represent the Putnam Nail Company, Upson Nut Company, Central Oil Stove Company and several other manufacturers, is visiting the East and will be in and around New York for the next 30 days.

Paints and Colors.

It should be understood that the prices quoted in this column are strictly those current in the wholesale market, and that higher prices are paid for retail lots. The quality of goods frequently necessitates a considerable range of prices.

Distribution in this city and vicinity has been on a rather moderate scale, and reports from traveling salesmen are to the effect that out-of-town buyers are still somewhat backward about placing orders for spring season delivery. This is attributed in a good measure to the fact that outdoor work, and, consequently, the spread of Paint, has been checked in all territory that draws upon this center for supplies, leaving retailers and contractors well supplied from deliveries on purchases made early in the year. Competition is neither dead nor languishing, but the turn for the better that has taken place in the market for Pig Lead, along with prospects for higher prices for Linseed Oil, acts as a restraining influence of sufficient power to prevent serious cutting of prices on goods of recognized high quality. For that matter, the competition in the cheaper lines of products is somewhat subdued momentarily and prevents any radical movement in values of the same, although the still-hunt for business proceeds in about the usual way.

White Lead.—Rumors of "cut" prices for pure pigment still have circulation and rumor does not stop at specifying outsiders as being in the contest. The National Lead Company, however, state that their old list prices and terms are not deviated from in the slightest degree by any of the "branches," and that outside competition is stronger in words than in deeds. For that matter, it is claimed that outside manufacturers of unadulterated Lead have taken orders that will absorb their output for several months, and are, therefore, virtually out of the market as a possible disturbing element. Jobbers vary somewhat from the official list for small quantities, but to no greater extent than usual. Mixed Leads sell at prices quite as variable as the character of the goods, and the better grades, to all accounts, are holding their own in competition with other products for various uses.

Red Lead and Litharge.—Nothing out of the routine experience has been encountered in the market for these products. The cheaper grades have been ordered in a routine way only and the high-grade product employed in the Paint line has not met with more than routine sale. Still the volume of business appears sufficient to prevent burdensome accumulation of supplies and hold prices very steady.

Orange Mineral.—Neither domestic nor foreign product has been taken with any freedom of late, but sellers offer with reserve, suggestive of confidence of a turn for the better soon, and the bulk of the business passing is at old prices.

Zincs.—All reports go to show that crude material is plentiful and comparatively cheap. The output of Oxide, to all accounts, is quite as liberal. Still local sales agents affirm that new business is all that could be desired and that production is so well absorbed that the old friendly relations are maintained and prices held very steady. Hence the former range of prices prevails and what little irregularity may take place at intervals is confined almost exclusively to the low grade product. Foreign Zincs find rather slow sale, but the business passing is at the prices that have been in force for some time past.

Colors.—Very fair orders have been placed for goods used by grinders, and the general report is that the products of the latter are being marketed in a fairly satisfactory manner, although the "old-fashioned winter" stands in the way of free sales in various quarters. Dry and Oil Colors for general painters' use and for special work are receiving more attention, and some lines have been taken to a fairly liberal extent for March and April delivery. The same report is made in some particular popular Mixed Paints. Competition is keen, however, and keeps prices low.

Miscellaneous.—Nothing new has developed in the market for Block Chalk, Whiting, Putty or Clays. In the latter line some good-sized trades have been put through at practically former prices, but otherwise business has continued on strictly conservative lines and at practically former prices.

Oils and Turpentine.

The Lard market is, in a great measure, still the key to the Oil market. That is to say, prices for pretty much everything in the line of Oils are governed more or less

by the movements in the market for the hog product. The only prominent exception is Linseed Oil. Latterly the movements in Lard has been such as to encourage something more than a vague suspicion that legitimate influences have been fully discounted; that speculative operations in Lard and inferior greases have been carried to an extreme, and that present prices fully discount all visible strong features. That high cost has a restraining influence upon consumption is plain, and it is clear also that general knowledge of the fact that speculative interest is usually prominent prompts more than ordinary caution on the part of consumers. Against this, however, is the fact that supplies nearly all along the line have been worked down very closely, and that speculative manipulation is not solely responsible for the existing high level of prices.

Linseed Oil.—In this line there has been none of the excitement that has prevailed in other branches of the Oil trade, speculative interest being conspicuous by its absence, while manufacturers have kept as quiet as though no such thing as a concentration of interests was under consideration or fluctuation in the cost of raw material thought of. Business has been of very good volume for the season, however, including some purchases involving deliveries up to the end of March at current quotations, and the market preserves a very firm tone.

Cotton-Seed Oils.—Speculative interest has been kept prominently in the foreground, and had sufficient power to force prices about 2¢ ℔ gallon higher. In any event prime quality crude Oil was sold at 57¢, and prime quality Summer Yellow at 62¢ in this market, while advices from the South reported sales there at as good or comparatively higher rates. Foreign market prices have not reached a parity of current values on this side of the Atlantic, nor do either British or continental merchants harmonize with the popular American idea. In fact, Europe is using substitutes as far as possible, and here and there intimations are thrown out that Oil is likely to be reshipped to this market in the event of present prices being maintained. What may be done in this connection depends in a great measure upon the movement in the Lard market. For the present the prospects in that line are extremely perplexing. The Union Oil Company, Providence, R. I., have advanced prices as follows:

	Lots of 1 to 10 bbls. Cents.	Lots of 10 bbls. and over. Cents.
Pure Salad	72	70
Olive Flavored	72	70
Winter White	72	70
Winter Yellow	71	69

Terms, net cash. Oil sold by weight, 7½ ℔ to the gallon.

Lard Oil.—City pressers still quote $1 ℔ gallon for prime Oil, and corresponding prices for lower grades, but some out of town brands and parcels from second hands have been dealt out at 3¢ @ 5¢ less. Cheap parcels are gradually becoming scarcer, however, and nearly all sellers are now quoting prices close to a parity with present cost of raw material. In the present situation of affairs jobbers naturally are going very slow, since the endurance of present high prices for hog products is extremely uncertain, but imperative requirements necessitate purchases that absorb about all of the supply turned out.

Miscellaneous.—Crude Sperm Oil has been sold at as high as 90¢ in New Bedford and the manufactured products are correspondingly higher. There has been no special movement in Menhaden, Whale or other Fish Oils, but prices are very firm all along the line. Tallow, Olive, Cocoanut, Red, Neatsfoot, Rapeseed and Mustard-Seed Oils are very firm and meeting with fair sale.

Spirits Turpentine.—Prices have undergone very little change during the past week, but business has been on a somewhat larger scale and the market is showing firmer tone here and at the leading Southern points.

Bag Holder and Truck Combined.

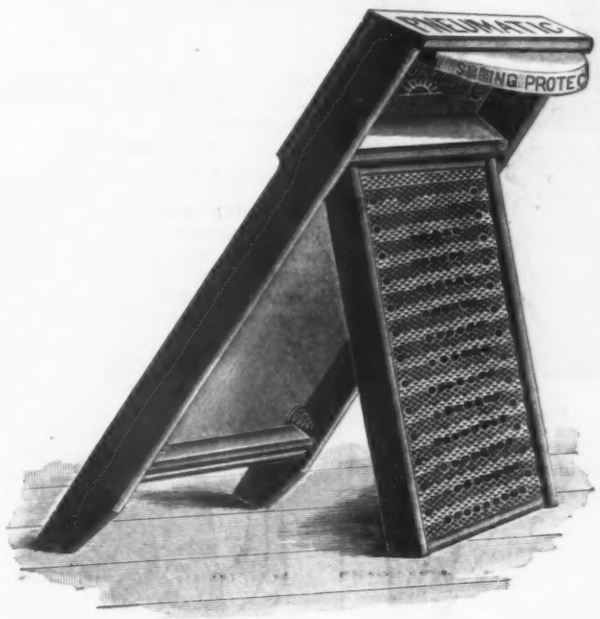
Ames Plow Company, Boston, and 53 Beekman street, New York, are offering the combined article, as illustrated here-

Bag Holder and Truck Combined.

with. The holder for the neck of the bag can be adjusted to the hight desired; and by means of the wheels the bag and contents can be trucked onto the scales and off again, or to any portion of the building, without handling it. The device is especially designed for warehouses where grain or other matter is handled in bags.

The Pneumatic Washboard.

The pneumatic washboard, as herewith illustrated, is being offered by Gorham & Sargent, Cleveland, Ohio. By the con-

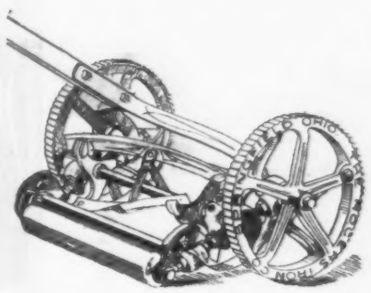


The Pneumatic Washboard.

struction of the washboard, it is explained, an air chamber is formed under the rubbing surface. When in use the perforated rubbing plate is described as being pressed downward into the air chamber at each stroke of the operator, forcing air, suds and water upward through the fabric that is being washed, thereby thoroughly cleansing the clothes in a short time, and with great ease. The point is made that the yielding to pressure of the rubbing plate, in connection with the air chamber, affords relief to the arms and shoulders of the operator. The board is represented in the cut as after having been used, opened out to dry and shows the air chamber under the rubbing surface, springs, &c. The board is provided with the Peerless embossed rubbing surface, with large and strong pivoted frame, heavy zinc, and the manufacturers claim, combines in one article all valuable features of the best washboards and washing machines.

The Bayley High Wheel Mower.

The Rogers Iron Company, Springfield, Ohio, the Ross & Fuller Association, 33 Chambers street, New York, agents, are



The Bayley High-Wheel Mower.

offering the lawn mower, illustrated herewith. It has 10-inch wheels and a 6-inch reel and all set screws are dispensed with. Two ⅝-inch round steel bolts form the connections between the side frames, holding the cutter bar and main axle, resulting, it is stated, in a strong construction, at the same time simple and neat. Long bearings are provided for the main wheels and reel shaft. The manufacturers claim that the machine is simple of adjustment and strong. The point is made that the handle bar is made to just fit the hand and that the mower is a real high grass cutter. A low wheel mower of the same construction as the Bayley is also made, known as Crusier No. 1. The makers state that while the 8 inch wheel machine is designed after the Bayley, having all the features of a first-class mower, it is being put on the market as a cheap machine.

The Challenge Refrigerator Lock.

The refrigerator lock, the parts of which are shown in detail in the accompanying cuts, is made by the Challenge Corn Planter Company, Grand Haven, Mich., for whom B. B. Neal, 106 Chambers street, New York is agent. It is used only on their refrigerators. It is pointed out that the operation of the lock is the same as an ordinary spring bolt lock in opening and closing the door, with this adpition, that a slight turn of the knob after the door is closed draws the door to a close, tight joint. The manufacturers claim that the lock is strong and durable, that the locking bolt catches automatically when the door is closed without the use of the hands, and that it has the qualification of easily drawing the door to a close, tight joint, thus preventing rattling and the escape of the cold air from the provision chamber.

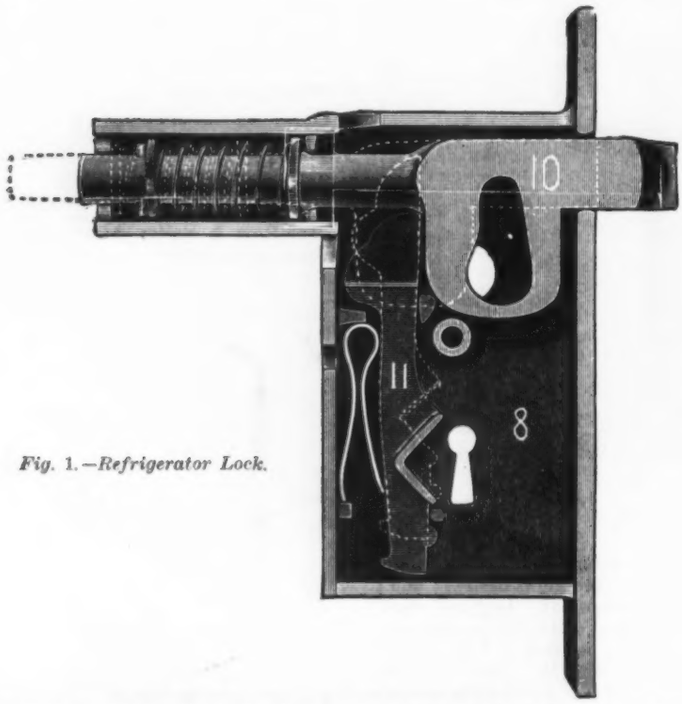


Fig. 1.—Refrigerator Lock.

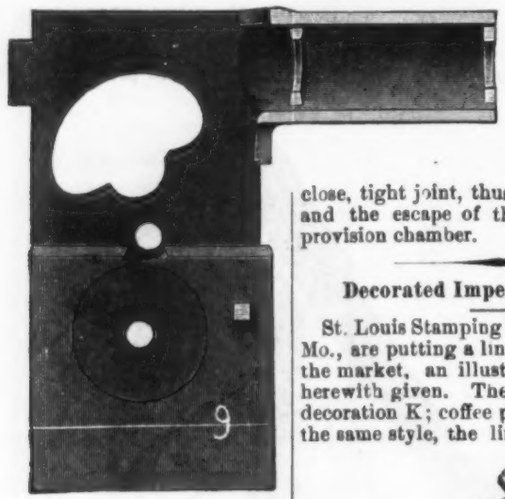


Fig. 2.—Lock Cap.

Fig. 3.—Handle of Lock.

Decorated Imperial Ironware.

St. Louis Stamping Company, St. Louis, Mo., are putting a line of these goods on the market, an illustration of which is herewith given. The tea pot shown is of decoration K; coffee pots are also made in the same style, the line being known as the Acme. The goods have bright tin lids, wooden handles, and are finished both inside and outside in ironware. The goods are designed to supply the demand for a cheaper and more popular grade of goods than those finished in nickel plate.

Decorated Imperial Ironware.

Screen-Door and Window Hardware.

Sargent & Co., New Haven, Conn., and New York, are offering trimmings for screen doors and screen windows, illustrations of some styles being given in the accompanying cuts. The catches shown in Figs. 1 and 2 have lever handles for both sides, also with reverse bevel, bent strike, and are furnished in various kinds of metals, also with plain polished surfaces. The formation of the latch bolt has the

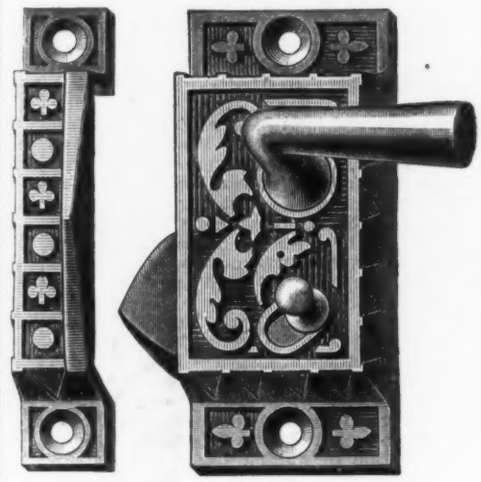


Fig. 1.—Diamond-Bolt Screen-Door Catch

Fig. 2.—Lever Handle on Outside of Catch.

Fig. 3.—Pull or Sash Lift.

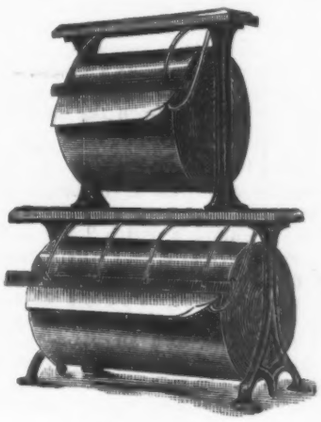
effect of overcoming friction, thus enabling the catch to act quickly and to close with remarkable ease. By using the pull in the position shown in Fig. 3, it is adapted as a screen door pull; turning it around horizontally to the right it becomes a window-screen pull or sash lift,

Fig. 4.—Bronze Metal Door Pull.

and by turning it horizontally to the left it answers as a drawer pull or shelf box handle. These goods are in Tuscan, Berlin and Tokio bronzed. Fig. 4 shows the medium one of three sizes of door pulls of highly polished bronze metal.

Economic Hopking Roll Paper Cutter.

The roll paper cutter herewith illustrated, put upon the market by the American Roll Paper Company, St. Louis, Mo.,

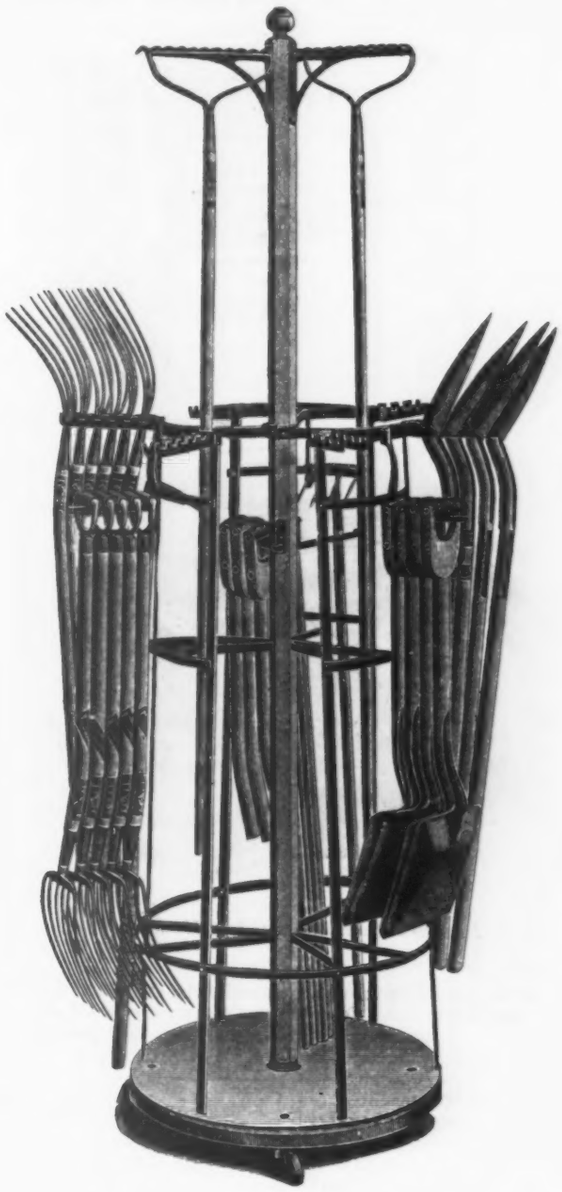


Roll Paper Cutter.

has the original Hopking knife and an improved automatic finger for raising the sheet of paper. Thus the paper is always in a position to be readily grasped for tearing it off. The cutters are well finished in japan and hardwood, and are made in all sizes from 6 to 36 inches. They are made in pyramids of every kind or in single rolls.

Herrick's Agricultural Tool Rack No. 2.

F. A. Herrick & Co., 228 Second street, Jackson, Mich., have put on the market a tool rack, as illustrated herewith, reduced in size but constructed upon the same principle as their No. 1 rack. The No. 2 is designed especially for use where floor space is limited, the platform being but 30 inches in diameter, whereas the platform of the large rack is 4 feet across. The No. 2 rack holds 120 tools and handles, and when desired will be furnished to revolve so that in a crowded store it may be rolled in some corner out of the way and revolved to get at the tools needed, thus economizing considerable room. Testimonials from merchants having used the large rack indicate that but about one quarter the space is required for the accommodation of the same number of tools as with other racks and that sales on such goods are largely increased.



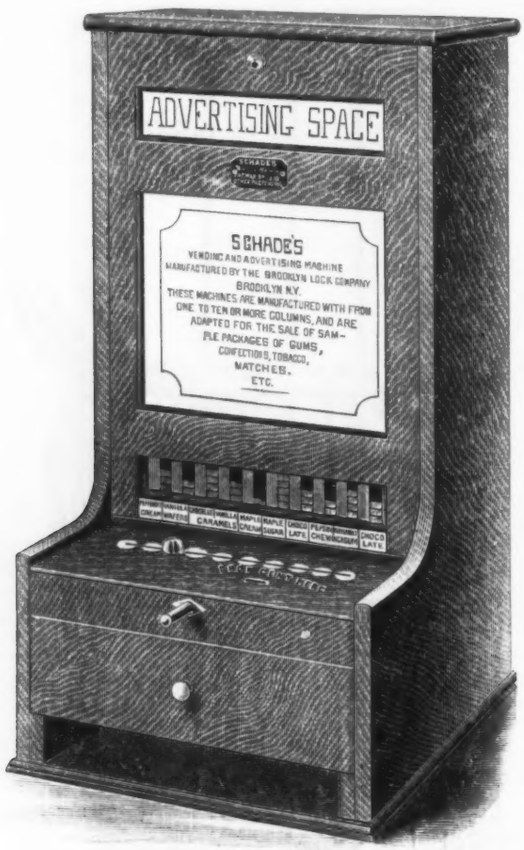
Herrick's Agricultural Tool Rack No. 2.

The Queen City Ventilated Barrel & Basket Company, Buffalo, N. Y., were incorporated in the latter part of December, 1892, with a capital stock of $30,000. The company are now regularly manufacturing a wire and slat fabric, which is designed to supplant the use of willow in the making of baskets, crates, barrels and all kinds of shipping packages. The factory of the company is situated on Chandler street and New York Central Belt Line Railroad. The company's officers are as follows: Charles Richardson, president; N. Osborne, treasurer; and H. Osborne, secretary.

American machinery will be used on an extended scale in building the great Yagesi irrigating canal system in Lower California, on the eastern shore of the Gulf of California, where 500,000 acres—a territory larger than the State of Connecticut—is being improved under a concession from the Mexican Government. The soil and climate are described as being equal to the far-famed valley of the Nile.

Improved Automatic Vending Machine.

The accompanying illustration of a vending machine is of one put upon the market by the Brooklyn Lock Company, 56 and 58 Ainslie street, Brooklyn, N. Y. One mechanism will operate from one to ten columns, thus lessening the cost of a large machine and affording an opportunity of displaying a large variety of samples. They can be operated by a coin of any given denomination; and if required for 2-cent art cles, can be operated by the insertion of two pennies in one slot, acting simultaneously. If desired, an advertising tape is also furnished in connection with



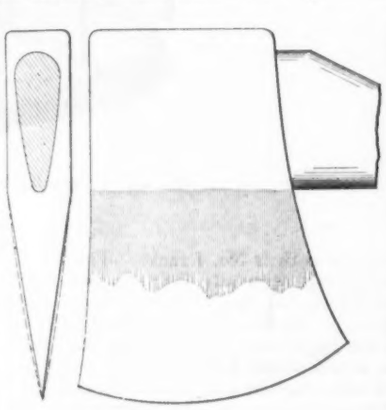
Improved Automatic Vending Machine.

the machine, which is operated by the coin mechanism so that each push of the delivery rod causes a certain amount of tape to be exp sed, containing such advertising matter as is desired. This is referred to as a valuable adjunct to the machine, as the space on the tape may be sold to other parties for advertising purposes, the returns received from the tape paying the entire cost of the machine several times each year. The machine is especially designed for the sale of such articles as candy, chocolate, gum, or anything that can be put up in small regular packages.

The Best Shaped Axe for Tasmania.

The Australasian Axemen's Association, which has its headquarters at Latrobe, Tasmania, arranged to meet for the discussion of axes, their best shape, size and other qualities. The meeting was recently held, and we are indebted to the *Ironmonger* for the following particulars:

At the meeting a number of axes were laid upon the table, and the criticism of the members seemed to show that the bronze colored Underhill axe was most favored by those present. Several paper models were also exhibited, and it was finally resolved that an axe of the following dimensions was the best for quick work: Greatest width of blade, 5¼ to 5½ inches; width of blade at bottom of eye, 4½ to 4¾ inches; width on top of poll, 3¾ inches; depth of poll to top of eye, ⅛ inch; greatest depth of eye, 2¾ inches; diameter for handle at greatest point within the eye, 1⅝ inch; depth of blade from eye, 4 to 4¼ inches; axe to taper gradually from the eye, and to run nearly even in thickness all across; thickness of poll, 1¼ to 1⅜ inches; total depth from top of poll, 7⅛ inches; weight of axe, including handle, to be 5½ to 6½ pounds; best weight, just 6 pounds. It was pointed out that the Underhill axes had too much poll, and that generally the eye was rather small, while it was a general rule for axes to narrow off too much from the blade to the poll. In



Model of Axe Approved by Australasian Axemen's Association.

consequence of another resolution, drawings of the axe in accordance with the above dimensions were made, as illustrated in Figs. 1 and 2 These particular dimensions refer especially to the qualities desirable in cutting Tasmanian timbers, and might not apply in other parts of the world. The Australian timbers, as a rule, are of similar character to the Tasmanian, but, at the meeting where these resolutions were passed, Australian axemen were not represented. The champion axeman in Tasmania, and indeed nearly all the best and fastest axemen, have the poll taken off their axes so as to give them a better balance and the user a better control over his implement. The meeting of the association, held on November 30, was devoted to competitive trials of skill, and a very large number of entries were received. Nearly 50 entries are from competitors living outside Tasmania.

The Daisy Oiler.

The Consolidated Fruit Jar Company, 49 Warren street, New York, and New Brunswick, N. J, are offering the bicycle oiler herewith shown:

The spout is covered by a screw cap, properly packed, so as to prevent leakage from the spout, making a clean and practicable oiler. Its general form adapts

The Daisy Oiler.

it to bicyclists and others for carrying in the pocket, and is convenient for both carrying and handling. A circular informs the trade that letters patent have been granted the manufacturers for this oiler, as they are informed that an imitation of the oiler has been put upon the market.

At Louisville, Ky., the damage to river property was very great at the break up of the ice gorges. In a part of the harbor called the "Pumpkin Patch," a mooring always considered safe, and where usually several million bushels of coal are kept stored in barges, the greatest loss occurred. During one night over 100 barges, many of them loaded, were torn away by the ice fields and carried over the falls. Some rode in safety, but many were wrecked on the dam. Several harbor tow boats were also lost.

The New York Hotel property and land adjoining, comprising an entire block, will be cleared for the erection of modern business structures as soon as the present leases expire.

Current Hardware Prices.

FEBRUARY 8, 1893.

Note.—The quotations given below represent the Current Hardware Prices which prevail in the market at large. They are not given as manufacturers' prices, and manufacturers should not be held responsible for them. In cases where goods are quoted at lower figures than the manufacturers name, it is no stated that the manufacturers are selling at the prices quoted, but simply that the goods are being sold, perhaps by the manufacturers, perhaps by the jobber at the figures named.

The character @ is used to indicate a range of price; thus discount 50&10@50&10&5 % signifies that the goods in question are sold at prices ranging from discount 50 and 10 % to discount 50 and 10 and 5 %.

Adjusters, Blind—

Domestic.... ....₩ doz $3.00, 33⅓%
Excelsior....₩ doz $10.00.....50&10&2%
North's.....list net @ 10%
Zimmerman's—See Fasteners Blind.

Ammunition—See *Caps, Cartridges, Shells, &c*

Anvils—

Eagle Anvils, ₩ ℔ 9¢..... 15@15&5%
Peter Wright's.....11@11½%
Armitage's Mouse Hole.....10½@11¢
Am. Wrought, Horse shoe brand.11@11½¢
Trenton.....10@10½¢
Wilkinson's.....10½@11¢
Moore & Barnes Mfg. Co.....33⅓%

Anvil Vise and Drill—

Millers Falls Co., $18.00.....20%
Cheney Anvil and Vise.....25%
Allen Anvil and Vise. $3.00.....40&10%
Star.....45&5%

Apple Parers—See *Parers Apple, &c.*

Augers and Bits—

Douglass Mfg. Co.....
Wm. A. Ives & Co.....
Humphreysville Mfg. Co.....
French, Swift & Co. (F. H. Beecher) } 75%
P. S. & W. Co.....
Rockford Bit Company.....
Cook's, Douglass Mfg. Co.....55%
Cook's, N. H. Copper Co.....60%
Ives' Circular Lip.....60%
Patent Solid Head.....30%
C. E. Jennings & Co., No. 10, extension lip.....40%
C. E. Jennings & Co., No. 20.....60%
C. E. Jennings & Co., Auger Bits, ₩ set, 32⅛ quarters, No. 5, $5; No. 30, $3.50.25%
Lewis' Patent Single twist.....45%
Russell Jennings' Augers and Bits.25&10%
Imitation Jennings' Bits.....60@60&10%
Pugh's Black.....20%
Pugh's Jennings Pattern.....30%
Car Bits.....60@60&10
Car Bits, P. S. & W. Co.....60&10
Snell's Car Bits.....60%
L'Hommedieu Car Bits.....15&10%
Forstner Pat. Auger Bits.....20%
Cincinnati Bell-Hangers' Bits.....30&10

Bit Stock Drills—

Morse Twist Drills..... .50&10&5%
Standard.....50&10&5%
Cleveland.....50&10&5%
Syracuse, for metal.....50&10%
Syracuse, for wood (wood list).30@30&5%
Cincinnati, for wood.....30&10%
Cincinnati, for metal.....45&10%

Expansive Bits—

Clark's small, $18; large, $26..35@35&10%
Ives' No. 4, ₩ doz. $60.....40%
Swan's.....40%
Steer's, No. 1, $26; No. 2, $22.....35%
Stearns' No. 2, $48.....20%

Gimlet Bits—

Common.....₩ gross $2.75@$3.25
Diamond.....₩ doz $1.25....40&10%
Bee.....25@25&5%
Double Cut, Shepardson's....45@45&10%
Double Cut, Ct. Valley Mfg. Co....30&10%
Double Cut, Hartwell's, ₩ gro., $5.00..25%
Double Cut, Douglass'.....40&10%
Double Cut, Ives..... .....60@60&10%

Hollow Augers—

Ives' } 33⅓@33⅓
French, Swift & Co. } &10%
Douglass' }
Bonney's Adjustable, ₩ doz $48.....50%
Stearns'.....20&10%
Ives' Expansive, each $4.50.....50&5%
Universal Expansive, each $4.50.....20%
Wood's.....25@25&10%
Cincinnati Adjustable.....25&10%
Cincinnati Standard.....25&10%

Ship Augers and Bits—

L'Hommedieu's..... .....15&10@15&10&5%
Watrous'.....25@25&10%
Snell's.....15&10@15&10&5%
Snell's Ship Auger Patt'n Car Bits, 15&10@15&10&5%

Awl Hafts—See *Hafts, Awl.*

Awls—

Awls, Sewing, Common....₩ gr. 85¢@$1
Awls, Should. Peg.....₩ gr. $1.50@$1.55
Awls, Pat. Peg.....₩ gr. 35¢@38¢
Awls, Shouldered Brad..₩ gr. $1.30@ 1.40
Awls, Handled Brad....₩ gr. $2.50@$3.00
Awls, Handled Scratch..₩ gr. $4.00@4.50
Awls, Socket Scratch..₩ doz. $1.10@$1.20

Awl and Tool Sets—See *Sets, Awl and Tool.*

Axes—

	Plain.	Beveled.
First quality, best brands.	$7.00	$7.50
First qual., other brands	6.50 / 6.75	7.00
Second quality	5.50	6.00

Axle Grease—See *Grease, Axle.*

Axles—

No. 1....3¼@3½¢, No. 2, 5@6¾ }
Nos. 7 to 14.....60&10% }
Nos. 15 to 18.....47½% } 3% cash
Nos. 19 to 22.....70% }
Concord Axles, loose collar.....4½@6¢
Concord Axles, solid collar.....5½@7¢
National Tubular Self Oiling..... .....
33⅓% @33⅓&5%

Bag Holders—See *Holders, Bag.*

Balances—

Spring Balances.....40%

	No. 3000	20	30
Chatillon, ₩ doz.	$0.80	0.95	1.75 net

Chatillon Straight Balances.....40%
Chatillon Circular Balances..... 50&10%

Barb Wire.—See *Wire, Barb.*

Bars—

Crow—

Cast Steel..... ...₩ ℔ 3½¢
Iron, Steel Points..... ...₩ ℔ 3¢

Basins, Wash—

Standard Fiberware, No. 1, 10¼-inch, $2; 12-inch, $2.25 13¾-inch, $2.75; 15-inch, $3.25.

Beams, Scale—

Scale Beams, List Jan. 12, '82..50&10@ 50&10&5%
Chatillon's No. 1.....40%
Chatillon's No. 2.....50%
Custer's.....33⅓%

Beaters—

Egg—

Dover.....₩ doz $1.20@$1.50
Duplex (Standard Co.).....₩ doz $1.00
Dover (Standard Co.)..... , ₩ doz $1.00
Duplex Extra Heavy (Standard Co.)... ₩ doz. $3.50
Bryant's.....₩ gross $14.00
Double (H. & R. Mfg. Co.), ₩ gro., No. 0 $12.00; No. 1, $15.00; No. 2....$36.00
Easy (H. & R. Mfg. Co.).....₩ gro $12.00
Triple (H. & R. Mfg. Co.).....₩ gro $16.50
Spiral.....₩ gro $4.25 @ $4.50
Improved Acme (H. & R. Mfg. Co.)..... ₩ gro. $9.00
Paine, Diehl & Co.'s .....₩ gro. $24.00
Silver & Co.... ....₩ doz $5.50

Culinary—

Keystone, P. D. & Co., Each, No. 1, $1; No. 2, $2... .....20%

Bells—

Cow—

Common Wrought..... . ...60&10%
Western, Sargent's list.....70&10%
Kentucky, "Star".....20&10%
Kentucky, Sargent's list.....70&10%
Kentucky Durham.....70&10%
Dodge, Genuine Kentucky....70@70&10%
Texas Star .....50&10@50&10&5%

Door—

Gong, Abbe's.....33⅓&10%
Gong, Yankee.....45&10%
Gong, Barton's .....40&10@50%
Crank, Taylor's.....25&10%
Crank, Brooks'.....50&10&2%
Crank, Cone's.....10%
Crank, Connel's.....20&10%
Lever, Sargent's..... ....60&10%
Lever, Taylor's Bronzed or Plated....net
Lever, Taylor's Japanned.....25&10%
Lever, R. & E. Mfg. Co.'s.. .....50&10&2%
Pull, Brook's..... .....50&10&2%

Electric—

Wollensak's..... ....20%
Bigelow & Dowse.....20%
Taylor's.....20%

Hand—

Light Brass..... .....70&10@70&10&5%
Extra Heavy.....70%
White.....70%
Silver Chime.....33⅓&10%
Globe Cone's Patent).....25&10@35%

Miscellaneous

Call.....45@50%
Farm Bells.....₩ ℔ 3¢@3½¢
Steel Alloy Church and School Bells..40%

Bellows—

Blacksmiths'.....60&10&5@60&10&10%
Molders'.....40&10@50%
Hand Bellows.....40&10@50%

Belting, Rubber—

Common Standard.....70@10@75&5%
Standard.....70&5@70&10%
Extra.....60&10@60&10&5%
N.Y.B.&P. Co., Carbon.....60%
N.Y.B.&P.Co., Diamond.....50%
N.Y.B.&P.Co., Para.....40%

Bench Stops—See *Stops, Bench*

Benders and Upsetters, Tire—

Stoddard's Lightning Tire Upsetters..15%
Detroit Perfected Tire Bender.....15%
Green River Tire Benders and Upsetters.....20%

Bits—

Auger, Gimlet, Bit Stock Drills, &c., see *Augers and Bits.*

Bit Holders—See *Holders.*

Blind Adjusters—See *Adjusters, Blind*

Blind Fasteners—See *Fasteners, Blind.*

Blind Staples—See *Staples, Blind.*

Blocks—

Cleveland Block Co., Mal. Iron.50@50&10%
Moore's Novelty, Mal. Iron.....50%
Sure Grip Steel Tackle Blocks.... .....25%

Bolts—

Carriage, Machine, &c.—

Com. list June 10, '84.....75&10&5@80%
Genuine Eagle, Norway, list Oct. '84..... 80&5@80&10%
Eagle, Norway, list Oct. '84 80&10@80&15
Phila. pattern, list Oct. 7, '84..... 80%
R.B.&W., old list..... 70%
Machine, list Jan. 1, 1890.....80&10%
Bolt Ends, list Jan. 1, 1890.....80&10%

Door and Shutter—

Cast Iron Barrel, Square, &c.....70&10%
Cast Iron Shutter Bolts.....70&10%
Cast Iron Chain (Sargent's list)....65&10%
Ives' Patent Door Bolts..60&10@60&10&5%
Wrought Barrel.....70&10@75%
Wrought Square.....70&10@75%
Wr't Shutter, all Iron, Stanley's..... 60&10@60&10&10%
Wr't Shutter, Brass Knob .....60@50&5%
Wr't Shutter, Sargent's list.....60&10%
Wr't Sunk Flush, Sargent's list...60&10%
Wr't Sunk Flush, Stanley's list..50&10&5%
Wr't B. K. Flush, Common.....55&10%

Stove and Plow—

Stove.....60&10@60&10&5%
Plow.....60&10&50@60&1c&10%
R. B. & W., Plow..... .....55%

Tire—

Common, list Feb. 28, '83.....65@65&5%
Port Chester Bolt and Nut Company:
Empire list Feb. 28, '83.....65%
Keystone, Philadel., list Oct. '84.....80%
Norway, Phila., list Oct. '84.....75%
American Screw Company
Norway, Phila., list Oct. 16, '84.....75%
Eagle, Phila., list Oct. 16, '84.....80%
Philadel., list Oct. 16, '84 .....80%
Bay State, list Feb. 28, '83.....65%
R. B. & W., Philadel., list Oct. 16, '84...80%

Borers, Tap—

Common and Ring.....20&10%
Ives' Tap Borers.....33⅓&5%
Enterprise Mfg. Co.....20%
Clark's..... .....33⅓@35%

Borax—

Per ℔.....9¼@10½¢

Boring Machines—See *Machines, Boring.*

Bow Pins—See *Pins, Bow.*

Boxes, Wagon—

Per ℔.....2¾¢

Braces—

American Bit Brace and Tool Co.,
Nos. 10, 12, 20..... ...60&10%
Nos. 11, 21, 24, 27.....70&10%
Nos. 22, 23, 25.....60&10&5%
Nos. 13, 26, 36, 37 ....70&10&5
Amidon's,
Barker's Imp'd Plain.....75&10@80%
Barker's Imp. Nickeled.....65&10@70%
Ratchet..... .....75&10@80%
Eclipse Ratchet.....60%
Globe Jawed.....40@40&10%
Corner Brace.....40@40&10%
Universal, 8 in., $2.10; 10 in.....$2.25
Buffalo Bail.....$1.10@$1.15
Barber's,
Nos. 10 to 16.....50&10%
Nos. 30 to 33.....50&10%
Nos. 40 to 63..... .....50&10@50&10&10%
Saxton's,
Barker's Imp. Polished.....75&10@80%
Barker's Imp. Nickeled.....65&10@70%
Ratchet, Polished.....50&10@60%
Ratchet, Nickeled.....40&10@50%
Buffalo Bail.....net, $1.10@$1.15
Bartholomew's,
Nos. 25, 27 and 30.....50&10@60&5%
Nos. 117, 118, 119.....70@70&5%
Common Bail, American.....$1.00@$1.10
Fray's Genuine Spofford s...50&5@50&10%
Fray's Nos. 70 to 120, 81 to 123, 207 to 414 50&10%
Ives' New Haven Novelty.....70@70&5%
New Haven Ratchet.....60&5@60&10%
Barber Ratchet.....60&5@60&10%
Barber's..... .....60&5%
Spofford..... .....60&5@60&10%
Osgood's Ratchet.....40&10@50%
P. S. & W. Co., Peck's Patent.....60%

Brackets—

Shelf, plain,
Regular, list..... .....65@70%
Sargent's list.....60&10@70&10%
Shelf, fancy,
Sargent's list..... .....70@70&10%
Other makes at a wide range of prices.
Bradley Shelf Brackets.....70&10%

Bright Wire Goods—See *Wire.*

Broilers—

Henis' Self-Basting. } Inch..... 9 10 9x11
Per doz...$4.50 5.50 6.50
New Haven.....50%
Wire Goods Co.....65&10%
Morgan Odorless.....₩ doz. $12, 5o%

Buckets, Well—

Galvanized—

Hill's.....₩ doz. 12 qt. $4.25; 14 qt. $5.25
Iron Clad.....₩ doz. 14 qt. $4.25@4.50
Helwig's Flat Iron Band.....$3.75
Helwig's Wired Top.....₩ doz $4.00

Bull Rings—See *Rings, Bull.*

Butcher's Cleavers—See *Cleavers, Butchers'.*

Butts—

Brass—

Wrought Brass.... .....80@80&10%
Cast Brass, Tiebout's.....50%
Cast Brass, Fast.....33⅓&10%
Cast Brass, Loose Joint.....33⅓&10%

Cast Iron—

Fast Joint, Narrow.....50&10&5@60%
Fast Joint, Broad.....50&10@60%
Loose Joint.....
Loose Joint, Japanned.....
Loose Joint, Jap. with Acorns..
Parliament Butts.....
Mayer's Hinges..... } 75@75 &10%
Loose Pin, Acorns.....
Loose Pin, Acorns, Japanned...
Loose Pin, Acorns, Japanned, Plated Tips.. .....

Wrought Steel—

Fast Joint, Narrow..... }
Fast Joint, Lt. Narrow..... }
Fast Joint, Broad..... } List Jan. 3
Loose Joint, Broad..... } 1893,
Table Butts, Back Flaps, &c... } 40@40&10%
Inside Blind, Regular..... }
Indide Blind, Light..... }
Loose Pin..... }
Bronzed Wrought Butts.....50@50&10%

Calipers—See *Compasses.*

Calks, Toe—

Gautier, One Prong, Blunt.....5½@6¢
Burke's One Prong, Blunt.....5½@6¢
Burke's, Two Prong, Blunt.....7½@8¢
Burke's, One Prong, Sharp.... ....6½@7¢

Can Openers—See *Openers, Can.*

Caps—

Percussion—

Hicks & Goldmark's and Union Metallic Cartridge Co. ₩ 1000
F. L. Waterproof, 1-10's.....35@37¢
E. B. Trimmed Edge, 1-10's.....47@50¢
E. B. Grnd. Edge, Cent. Fire, 1-10's.... 47@50¢
Musket, Waterproof, 1-10's.....50@53¢
G. D.....27@30¢
S. B. Genuine Imported.....45¢
Eley's E. B.....50@55¢
Eley's D Waterproof, Central Fire..$1.00

Primers—

Berdan Primers, $1.00.....3%
B. L. Caps (Sturtevant Shells) $1.00....3%
All other Primers, $1.20.....3%

Cards—

Watson's Cotton, Wool, Horse and File, list January 28, 1891.. ..... 35%

Carpet Stretchers—See *Stretchers, Carpet.*

Carpet Sweepers—See *Sweepers, Carpet.*

Cartridges—

Rim Fire Cartridges.....50&5&2%
Rim Fire Military.....15&2%
Cent. Fire, Pistol and Rifle.....25&5&2%
Cent. Fire, Military and Sporting 15&5&2%
Blank Cartridges, except 22 and 32 cal., additional 10% to above discounts.
Blank Cartridges, 22 cal., $1.75.....2%
Blank Cartridges, 32 cal., $3.50.....2%
Primed Shells and Bullets.....15&5&2%
B. B. Caps, Round Ball, $1.75.....2%
B. B. Caps, Con. Ball, Swgd., $2.00.....2%

Casters—

Bed..... } Brass.....55@55&10%
Plate..... } Others.....60@60&10%
Shallow Socket... }
Deep Socket.....40&10%
Yale Casters, low list.....45%
Yale, Gem.....70%
Martin's Patent (Phœnix).45&10@50&10%
Payson's Anti-friction.....70@70&10%
Payson's Truck.....60@60&10%
Giant Truck Casters.....35%
Stationary Truck Casters.....50&10%
Socket Truck Casters.....50@50&10%
Gwinner's Common Sense.....50%
Gwinner's Hercules.....50%

Cattle Leaders—See *Leaders, Cattle.*

Cement—

Victor Elastic.....5 ℔ pails ₩ ℔ 8¢

Chain—

Trace, Wagon and Fancy Chains, List revised Oct. 15, 1892...60@60&10%
American Coil, in cask lots,

3-16	¼	5-16	⅜	7-16	½	⅝	¾
$7.60	5.30	4.45	3.80	3.65	3.50	3.40	3.35

Less than cask lots, add½¢@1½¢ ₩ ℔
German Coil, list July 12, 1892 60@60&10%
German Halter Chain, list July 12, 1892. 60@60&10%
Covert Halter.....60&2%
Covert Traces.....35&2%
Covert Heel Chain.....50&2%
Oneida Halter Chain.....60@60&5%
Galvanized Pump Chain.....₩ ℔ 5½@6¢
Jack Chain, Iron.....30&10%
Jack Chain, Brass.....30%

Chalk—

White, case lots. ₩ gr 50¢; small lots.55¢
Red, case lots....₩ gr 67¢ small lots.75¢
Blue, case lots....₩ gr 75¢; small lots 80¢
See also Crayons

Chalk Lines—See *Lines.*

Chisels—

Socket Framing and Firmer

P. S. & W. / New Haven / Witherby, / Mix / Ohio Tool Co. ..... .75&10@75&10&5%
Douglass ..... 75@75&5%
Buck Bros. 30%
Merrill ..... .60&10@60&10&5%
L. & I. J. White ..... 30@30&5%

Tanged and Miscellaneous.

Tanged Firmers ..... 50@50&10%
Butchers' ..... $4.75@$5.00
Spear & Jackson's ..... $5 to £
Buck Bros. 30%
Cold Chisels, ₱ ℔ ..... 15@16¢

Chucks—

Beach Pat. ..... each, $8.00 ..... 20%
Morse's Adjustable, each, $7.00, 20@20&5%
Danbury ..... each, $6.00, 30@30&5%
Syracuse, Balz Pat. 25%
Graham Patent 33⅓%
Skinner's Patent Chucks.
Combination Lathe Chucks 33⅓%
Universal Lathe Chucks 40%
Independent Lathe Chucks 40%
Drill Chucks 15%
Union Mfg. Co.
Victor $8.50, 25%
Combination 40%
Universal 40%
Independent 40%

Churns—

Tiffin Union, each, 5 gal. $3.25; 7 gal., $3.75; 10 gal., $4.25.
McDermaid Star Barrel Churn, each 6 gal., $2.60; 10 gal., $2.75; 15 gal., $3.00; 20 gal., $3.25.

Clamps—

R. I. Tool Co.'s Wrought Iron 25%
Adjustable, Cincinnati ..... 15&10%
Adjustable, Hammers ..... 15@15&5%
Adjustable, Stearn's ..... 30@30&10%
Stearn's Adjustable Cabinet and Corner ..... 30@30&10%
Cabinet, Sargent's ..... 70&10%
Carriage Makers', Sargent's ..... 75@75&5%
Carriage Makers', P., S. & W Co. ..... 40&10%
Eberhard Mfg. Co. ..... 40&5@40&10%
Warner's ..... 40&10@40&10&5%
Saw Clamps, see Vises, Saw Filers'.
Carpenter's, Cincinnati ..... 25&10%

Cleavers, Butchers'—

Bradley s ..... 25@30%
L. & I. J. White ..... 20&5%
Beatty's ..... 40@40&5%
New Haven Edge Tool Co.'s 40%
P., S. & W ..... 33⅓&5@33⅓&10%
Foster Bros. 30%
Schulte, Lohoff & Co. ..... 40@40&5%

Clips—

Norway, Axle, ¼ & 5-16 ..... 55&5&5%
2d grade Norway Axle, ¼ & 5-16 ..... 65&5%
Superior Axle Clips ..... 66⅔&5@70%
Norway Spring Bar Clips, 5-16 ..... 60&5&5%
Wrought Iron Felloe Clips ..... ₱ ℔, 5½¢
Steel Felloe Clips ..... ₱ ℔, 5¢
Baker Axle Clips 25%

Cloth and Netting, Wire
—See *Wire, &c.*

Cockeyes 50%

Cocks Brass—

Hardware list ..... 60&2%

Coffee Mills—See *Mills, Coffee.*

Collars, Dog—

Chapman Mfg. Company ..... 50&10@60%
Medford Fancy Goods Co. ..... 40&10@50%
Embossed, Gilt, Pope & Steven's list, 30&10%
Leather, Pope & Steven's list 40%
Brass, Pope & Steven's list 40%

Combs, Curry—

Fitch's ..... 50&10@50&10&10%
Rubber, per doz., $10.00 ..... 25%
American Curry Comb Co. ..... 33⅓@40%
Kohler's Magic Oscillating. ₱ doz., $2.00
Kohler's Humane ..... ₱ doz., $1.75

Compasses, Dividers, &c.

Compasses, Calipers, Dividers. 70@70&10%
Bemis & Call Co.'s
Dividers 65%
Compasses ..... 50&5%
Calipers, Wing and Inside or Outside. 50&5%
Calipers, Double 60%
Calipers, Call's Patent Inside 30%
Excelsior 50%
J. Stevens & Co.'s ..... 25&10%
Starrett's
Spring Calipers and Dividers ..... 25&10%
Lock Calipers and Dividers 25%
Combination Dividers 25%

Coopers' Tools—
See *Tools, Coopers'.*

Cord—

Sash—

Common ..... ₱ ℔, 10@11¢
Patent, good quality ..... ₱ ℔, 12@12½¢
White Cotton Braided, fair, ₱ ℔, 24½@25¢
Common Russia Sash ..... ₱ ℔, 12½@13¢
Patent Russia Sash ..... ₱ ℔, 14¢
Cable Laid Italian Sash ..... ₱ ℔, 21@22¢
India Cable Laid Sash ..... ₱ ℔, 12¢
Silver Lake—
A quality, White, 50¢ 25%
A quality, Drab, 55¢ 25%
B quality, White, 30¢ 10%
B quality, Drab, 35¢ 10%
Sylvan Spring, Extra Braided, White. 34¢
Sylvan Spring, Extra Braided, Drab. 39¢
Semper Idem, Braided, White ..... 27@28¢
Egyptian, India Hemp, Braided ..... 26¢
Massachusetts, White ..... 29¢
Samson—
Braided, White Cotton ..... ₱ ℔, 37¢
Braided, Drab Cotton ..... ₱ ℔, 42¢
Braided, Italian Hemp ..... ₱ ℔, 40¢
Braided, Linen ..... ₱ ℔, 56¢
Tate's Cotton Braided, White, ₱ ℔, 28¢. 10%
Ossawan Mills—
Braided, Giant, White, ₱ ℔, 30¢ 20%
Braided, Giant, Drab and Fancy, ₱ ℔, 35¢ 10%
Braided, Crown White, ₱ ℔, 50¢ 50%
Braided, Crown Drab and Fancy, ₱ ℔ 54 ..... 50%

Wire Picture—

Braided or Twisted ..... 80&5@80&15%

Corkscrews—See *Screws, Cork.*

Corn Knives and Cutters
—See *Knives, Corn.*

Crackers, Nut—

Table (H. & B. Mfg. Co) 40%
Blake's Pattern, ₱ doz., $2.00 ..... 10%
Turner & Seymour Mfg. Co. 50%
Acme.
Japanned, ₱ gro., $30 ..... 50%
Nickel Plated, ₱ gro. $30 ..... 10%

Cradles—

Grain ..... 50&5&2@50&10&2%

Crayons—

White Crayons, ₱ gross ..... 7@8¢
D. M. Stewart Mfg. Co., Metal Workers', ₱ gross, $2.50 ..... 25%
D. M. Stewart Mfg. Co., Rolling Mill, ₱ gross, $2.50 ..... 25%
See also *Chalk.*

Crow Bars—See *Bars, Crow.*

Curry Combs—
See *Combs, Curry.*

Curtain Pins—
See *Pins, Curtain.*

Cutters—

Meat—

Dixon's, ₱ doz. ..... 40&5%

Nos.	1	2	3	4
	$14.00	$17.00	$19.00	$30.00

Woodruff's, ₱ doz. ..... 40&5%

Nos.	100	150
	$15.00	$18.00

Hale's Pattern, ₱ doz. ..... 70@70&5%

Nos.	11	12	13
	$27.00	$33.00	$45.00

American 30%

Nos.	1	2	3	4	B	5
Each	$5	$7	$10	$25	$50	$60

Enterprise 25%

Nos.	10	12	22	32	42
Each	$3	$2.50	$4	$6	$15

Great American Meat Cutter . 30@30&5%

Nos.	112	116	118	120	122
Each	$2.00	$2.75.	$3.00	$3.50	$4.00

Miles' Challenge, ₱ doz. ..... 45@45&10%

Nos.	1	2	3
	$22.00	$30.00	$40.00

Home No. 1, ₱ doz., $26.00 ..... 55&10%
Draw Cut, each:

Nos.	5	2	6	8
	$50	$75	$80	$225

..... 20@25%
Beef Shavers (Enterprise) 20%
Little Giant (P. S. & W. Co.) 50%
Chadborn's Smoked Beef Cutter, ₱ doz., $66.00

Tobacco

Champion ..... 20&10@30%
All Iron ..... ₱ doz., $4.25
Nashua Lock Co.'s .. ₱ doz., $18.00, 50@55%
Wilson's 55%
Sargent's ..... ₱ doz., $24.00, 55&10
Acme ..... ₱ doz., $20.00, 40%

Washer—

Smith's Pat. ..... ₱ doz., $12.00, 20&10&10%
Johnson's ..... ₱ doz., $11.00, 33⅓%
Fenny's .. ₱ doz., Nl. $14; Jap'd, $16, 55%
Appleton's ..... ₱ doz., $16.00, 60&10%
Bonney's ..... 30&10%
Cincinnati ..... 25&10%

Dampers, &c.—

Dampers, Buffalo ..... 40&10%
Buffalo Damper Clips ..... 40&10%
Crown Damper 40%
Excelsior ..... 40&10%

Diggers, Post Hole, &c.—

Samson, ₱ doz., $34.00 ..... 25@25&10%
Fletcher Post Hole Augers, ₱ doz., $36.00, 20@20&10%
Eureka Diggers ..... ₱ doz.
Vaughan's Post Hole Auger, ₱ doz., $8.50@$9.50
Kohler's Little Giant ..... ₱ doz., $18.00
Kohler's Hercules ..... ₱ doz., $14.00
Kohler's Invincible ..... ₱ doz., $12.00
Kohler's New Champion ..... ₱ doz., $8.00
Scheidler ..... ₱ doz., $18.00
Cronk's Post Bars, ₱ doz., $60.00, 50&5&50&10%
Gibb's Post Hole Digger ..... ₱ doz., $15.00
Gibbs' National ..... ₱ doz., $12.00
Gibbs' Columbia ..... ₱ doz., $13.00
Gibbs' Imperial ..... ₱ doz., $7.50
Shimer's Hollow Handle .. ₱ doz., $24.00, 50%

Dividers—See *Compasses.*

Dog Collars—See *Collars, Dog.*

Door Springs—
See *Springs, Door.*

Drawers.

Money, ₱ doz. ..... $18@$20

Drawing Knives—
See *Knives, Drawing.*

Drills and Drill Stocks—

Blacksmiths' ..... each $1.75
Blacksmiths' Self-Feeding, each $7.50, 20%
Breast, P. S. & W ..... 40&10%
Breast, Wilson's ..... 30&5%
Breast, Millers Falls ..... each $3.00, 25%
Breast, Bartholomew's ..... each $2.50 25&10&40%
Ratchet, Merrill's ..... 20@20&5%
Ratchet, Ingersoll's 25%
Ratchet, Parker's ..... 20@20&5%
Ratchet, Whitney's ..... 20&10%
Ratchet, Weston's ..... 20@25%
Ratchet, Moore's Triple Action ..... 25@30%
Ratchet, Curtis & Curtis 30%
Whitneys Hand Drill, Plain, $11.00; Adjustable, $12.00 ..... 20&10%
Wilson's Drill Stocks 10%
Automatic Boring Tools ..... $1.75@$1.85
Chicopee Automatic Drill ..... 20&10%

Twist Drills—

Cleveland ..... 50&10&10%
Diamond, W. & B ..... 50&10&10%
Graham's Pat. Groove Shank . 50&10&10%
Morse ..... 50&10&10%
New Process ..... 50&10&10%
Standard ..... 50&10&10%
Syracuse (Meta list) ..... 50&10%

Drill Bits or Bit Stock Drills—See *Augers and Bits.*

Drill Chucks—See *Chucks.*

Dripping Pans—
See *Pans, Dripping.*

Drivers, Screw—

Douglass Mfg. Co. ..... 20@20&10%
Disston's 50%
Buck Bros. 30%
Stanley R. & L. Co.'s
No. 64, Varnished Handles ..... 65&10%
No. 86 ..... 70&10%
Sargent & Co.'s
No. 1, Forged Blade ..... 60&10&10%
Nos. 20, 40 and 60 ..... 66⅔&10&10%
P. S. & W 70%
Knapp & Cowles
No. 1 ..... 60&20@70%
No. 2 ..... 60&10&10@70&5%
No. 3 ..... 60&5@60&10%
Nos. 4 and 00, Acme and Ideal .. 50&5@50&10&5%
Stearns' ..... 25&10&5%
Gay & Parsons 35%
Champion ..... 25&10%
Clark's Pat. ..... 30@33⅓%
Crawford's Adjustable 30%
Ellrich's Socket and Ratchet . 25@25&10%
Allard's Spiral, new list 25%
Kolb's Common Sense .. ₱ doz., $6.00, 25&10%
Syracuse Screw-Driver Bits ..... 30&30&5%
Screw Driver Bits ..... ₱ doz., 50@75¢
Screw Driver Bitts, Parr's .. ₱ gross, $6.25
Fray's Hol. H'dle Sets ... No. 3, $12.00, 45%
P. D. & Co.'s All Steel 50%
Cincinnati ..... 25&10%
Brace Screw Drivers ..... 25&10%
Buck Bros.' Screw Driver Bits ..... 27½&5%
Goodell's Automatic 50%
Mayhew's Black Handle 50%
Mayhew's Monarch ..... 45&10%
C. T. Williamson Wire Novelty Co. 50%

Egg Beaters—See *Beaters, Egg*

Egg Poachers—
See *Poachers, Egg.*

Electric Bell Sets—
See *Bells, Electric.*

Emery—No. 4 to No. 54 to Flour, CF

	46 gr.	150 gr.	F.FF.
Kegs, ₱ ℔	4½¢	5 ¢	2½¢
½ kegs, ₱ ℔	4¾¢	5½¢	2¾¢
¼ kegs, ₱ ℔	5 ¢	5¾¢	3 ¢
10-₱ cans, 10 in case	6 ¢	6½¢	5 ¢
10-℔ cans, less than 10	10 ¢	10 ¢	7½¢

Enameled and Tinned Ware—See *Ware, Hollow.*

Escutcheon Pins—
See *Pins, Escutcheon.*

Escutcheons—

Door Lock ... Same dis. as Door Locks.
Brass Thread ..... 60@60&10%
Wood 25%

Expanded Metal—
List No. 5.

Lathing 10%
Fencing, Painted Sheets 20%
Netting, Painted Sheets 20%
Door Mats, Galvanized 25%
Window Guards, Paneled 15%
Tree Guards, Paneled 15%

Extractors, Lemon Juice
—See *Squeezers, Lemon.*

Fasteners, Blind—

Mackrell's, ₱ doz., $1.00 ..... 20@20&10%
Van Sand's Screw Pat, $15 ₱ gr.. 60&10%
Van Sand's Old Pat., $15 ₱ gr. ..... 55&10%
Austin & Eddy No. 2008 ..... ₱ gr., $9.00
Security Gravity ..... ₱ gr., $9.00
Zimmerman's 50%

Faucets—

Fenn's 40%
Bohnen's Pat. Rubber Ball 25%
Fenn s Cork Stops 33⅓%
Star 60%
Frary s Pat. Petroleum 60%
B. & L. B. Co.
West's Lock, Open and Shut Key .. 50%
Star, Metal Plug, new list 40%
Lockport, Metal Plug, reduced list.. 60%
Metallic Key, Leather Lined .... 60&10@ 60&10&10%
Cork Lined ..... 70&5@70&10%
Burnside's Red Cedar 50%
Burnside's Red Cedar, bbl. lots .... 50&10%
John Sommers'
Peerless Best Block Tin Key 40%
IXL, 1st quality, Cork Lined 50%
Diamond Lock 40%
Perfection, Fla. Red Cedar (in boxes) 40%
Boss Metallic Key 50%
Reliable Cork Lined 60%
O. K. Western Pattern Cork Lined .. 50%
No Brand, Red Cedar (in bbls.) .. 50&20%
Western Pattern Metal Key 40%
No Brand Metal Key 60%
Self Measuring
Enterprise, ₱ doz., $36.00 ..... 20%
Lane's ₱ doz., $36.00 ..... 25&10%
Victor ..... ₱ doz., $36.00 25&10%

Felloe Plates—
See *Plates, Felloe.*

Fibre Ware—See *Ware Fibre.*

Fifth Wheels—

Derby and Cincinnati ..... 45&5%
Brewster ..... 50&5%

Files—

Domestic—

Nicholson Files, Rasps, &c. 60&10&5@ 60&10&10%
Nicholson (X.F.) Files 25%
Nicholson's Royal Files (Seconds) .... 75% (extra prices on certain sizes.)
American ..... 66⅔&10@66⅔&10&5%
G. & H. Barnett (Black Diamond) 60&10@60&10&5%
Arcade ..... 60&10&10@70%
Eagle ..... 60&10&10@70%
Other makers, best brands .. 60&10&5@70%
Fair brands ..... 70@70&10%
Second quality ..... 75@75&10&5%
Heller's Horse Rasps ..... 50&7½@50&10%
McCaffrey's Horse Rasps ..... 50&10%
Chelsea Horse Rasps, Hand Cut ... 50&10%
Arcade Horse Rasps ..... 60&10@60&10&5%

Imported—

Butcher ..... Butcher's list, 20%
Stubs ..... Stubs list, 25&30%

Fixtures, Grindstone—

Sargent's Patent ..... 70&10%
Reading Hardware Co. ..... 30&10%
P., S. & W. Co. ..... 50&10%

Fluting Machines—
See *Machines, Fluting.*

Fluting Scissors—
See *Scissors, Fluting.*

Fodder Squeezers—
See *Squeezers, Fodder.*

Forks—

Hay, Manure, &c. Asso. List, 70@70&5&2%
Hay, Manure, &c., Phila. List, 60@60&10&2%
Plated, see Spoons.

Frames—

Saw—

White Vermont ..... ₱ gro., $9.00@$10.00
Red, Polished and Varnished .... ₱ doz., $1.50, 25%

Screen, Window and Door—

Porter's Pat. Window and Door Frame, 33⅓&10%
Warner's Screen Corner Irons .... 33⅓@ 33⅓&10%
Stearns Frames and Corners. 25@25&10%
Cortland ..... 40@40&5

Freezers, Ice Cream—

White Mountain ..... 60@60&5%
Granite State ..... 65@65&5%
Arctic ..... 70@70&5%
American 60%
Buffalo Champion ..... 65@65&5%
Shepard's Lightning ..... 65@65&5%
Gem 65%
Blizzard 70%
Double Action Crown 60%
Crown 60%
Star 60%
Peerless ..... 60&10%
Giant 60%
Zero ..... 60&10&10%
Boss and Pet ..... 60&10&10%
Keystone, P., D. & Co., each, $1.50 .... 20%
Standard ..... 60@60&5%
Standard Double Action ..... 60@60&5%
Expert ..... 65@65&5%
Model ..... 60@60&5%
Confectioners' Machine 60%

Fruit and Jelly Presses—
See *Presses, Fruit and Jelly.*

Fry Pans—See *Pans, Fry.*

Funnels—

Gersdorff's Perfection, Standard and Globe; 7½s, 1 gro., 10%; 2 to 5 gro., 20%; 5 to 10 gro. 30%
Copper, 1 to 6 doz., 15%; 6 to 12 doz., 20%; over 12 doz. 25%

Furnaces, Soldering—

Burgess No. 3 Gem tin reservoir $7.00
Burgess No. 3 Gem, Copper reservoir. $8.50

Fuse—Dis. 12½@15%. ₱ 1000 ft.
Common Hemp Fuse, for dry ground. $2.70
Common Cotton Fuse, for dry ground 2.85
Single Taped Fuse, for wet ground.. 3.85
Double Taped Fuse, for very wet gr.. 4.80
Triple Taped Fuse, for very wet gr.. 5.60
Small Gutta Percha Fuse, for water. 7.50
Large Gutta Percha Fuse, for water. 12.00

Gates Molasses—

Stebbin's Pattern ..... 80@80&5%
Stebbin's Genuine ..... 60&10&10%
Stebbin's Tinned Ends ..... 40&10%
Chase's Hard Metal ..... 50&10%
Bush's 30%
Lincoln's Pattern ..... 70@70&10%
Weed's ..... 20&10%
Boss, ₱ doz.:
No. 1, $7; No. 2, $8; No. 3, $9; No. 4, $10 ..... 60&10&10%

Gauges—

Marking, Mortise, &c ..... 60&10%
Starrett's Surface, Center and Scratch. 25&10%
Stanley R. & L. Co.'s Butt and Rabbet Gauge ..... 20&10%
Hoague & Peck's Champion Gauge—
With Scale ..... ₱ doz., $5.00
Without Scale ..... ₱ doz., $4.00
Wire, Wheeler, Madden & Co. 10%
Wire, Morse's 25%
Wire, Brown & Sharpe's ..... 10@20%
Wire, P., S. & W. Co. ..... 10&10%

Gimlets—

Nail and Spike ..... 50&10&5%
Eureka Gimlets ..... 60&10%
Diamond Gimlets ..... ₱ gr $5.00
Double Cut, Shepardson's ..... 45@45&5%
Doub e Cut, Ives' ..... 60@60&5%
Double Cut, Douglass' ..... 40&10%

Glue—

I e Page's Liquid ..... 25@25&5%
Upton's Liquid 35%
Improved Process ..... 25@25&5%
Dodd's Liquid Glue ..... 25@25&5%

Glue Pots—See *Pots, Glue.*

Grease, Axle—

Fraser's ..... Keg ₱ ℔ 4¢, Pail ₱ ℔ 5¢
Fraser's, in boxes ..... ₱ gr $9.50
Dixon's Everlasting, in bxs.. ₱ doz 1 ℔ $1.20; 2 ℔ $2.00
Dixon's Everlasting .... 10-℔ pails, ea. 85¢
Lower grades, special brands, ₱ gr $5.50@$7.00
Axleine, tin boxes ..... ₱ gross $12.00
English Coach, wooden boxes ..... ₱ gross $8.50
English Coach, 5-℔ tin pails. ₱ doz. $3.50
Tiger, wooden boxes ..... ₱ gross $7.00
Tiger, 5-℔ tin pails ..... ₱ doz $2.85

Grindstones—

Small, less than car load lots at quarry ..... ₱ ton $9.00 @ $10.00
Family, regular list 60%
Family, Cleveland Stone Co. 30%

Grindstone Fixtures—
See *Fixtures, Grindstone.*

Gun Powder—See *Powder.*

Hack Saws—See *Saws.*

Hafts, Awl—

Sewing, Brass Fer. ₱ gr. $1.75
Pat. Sewing, Short. ₱ doz. ..... 45@50%
Pat. Sewing, Long ..... ₱ doz $1.20
Pat. Peg, Plain Top. ₱ doz ..... 40@45¢
Pat. Peg, Leather Top ..... ₱ doz 48@50¢

Halters—

Covert's, Rope, Jute.....60&10&10&2%
Covert's Rope, 7-16-in., Jute.....70&2%
Covert's Rope, ½-in., Hemp.....50&2%
Covert's Adj. Rope Halters.....40&2%
Covert's Hemp Horse and Cattle Tie, 50&10&2%
Covert's Jute Horse Ties.....70&2%
Covert's Jute Cattle Ties.....70&10&2%
Covert's Adj. Web Halters.....35&5&2%
Covert's Saddlery Works Halters...33⅓%
Covert's Saddlery Works Horse and Cattle Ties.....33⅓%

Hammers—

Handled Hammers—

Maydole's, list Dec. 1, '85.....25&10@35%
Buffalo Hammer Co.....
Humason & Beckley.....
Atha Tool Co.....
Verree.....
....50&10%
C. Hammond & Son.....40&10@—%
Fayette R. Plumb.
Artisans' Choice, A. E. Nail.....40&10%
Regular Y. & P., A. E. Nail.....50%
Horseshoe Turning Hammers.....50%
Other Hammers.....50&10%
Cheney's Claw.....40&10%
Cheney's Machinist's & Riveting...50&5%
Magnetic Tack, Nos. 1, 2, 3, $1.25, 1.50 & 1.75.....30&10%
Nelson Tool Works.....40&10%
Warner & Nobles, new list.....25&10
Peck, Stow & Wilcox.....35@40%
Sargent's.....40@40&10%

Heavy Hammers and Sledges—

3 ℔ and under...₩ h40¢
3 to 5 ℔.....₩ h36¢
Over 5 ℔.....₩ h30¢
75&10@75&10 &5%
Wilkinson's Smiths.....10¼¢@11¢₩ ℔

Handcuffs and Leg Irons

—See *Police Goods.*

Handles—

Cross-Cut Saw Handles—

Atkins', new list.....40%
Champion.....15%
Ely's Perfection.....₩ doz., $3.00

Iron, Wrought or Cast—

Door or Thumb.

Nos.	0	1	2	3	4
Per doz.	$0.90	1.00	1.08	1.35	1.50

60&10&10%
Roggin's Latches.....₩ doz 30@35¢
Bronze Iron Drop Latches..₩ doz 70¢ net
Jap'd Store Door Handles—Nuts, $1.62; Plate, $1.10; no plate, $0.88.....net
Barn Door, ₩ doz $1.40.....10&10%
Chest and Lifting.....70@70&10%

Wood—

Saw and Plane.....40&10@50%
Hammer, Hatchet, Axe, &c.....40@40&5%
Brad Awl.....₩ gr $2.00
Hickory Firmer Chisel, ass'd. ₩ gr 4.50
Hickory Firmer Chisel, large. ₩ gr 5.00
Apple Firmer Chisel, ass'd...₩ gr 5.00
Apple Firmer Chisel, large...₩ gr 6.00
Socket Firmer Chisel, ass'd..₩ gr 3.00
Socket Framing Chisel, ass'd.₩ gr 5.00
10@10&10@50%
J. B. Smith & Co.'s Pat File.....50%
File, assorted.....₩ gr 2.75
Auger, assorted.....₩ gr 5.00
Auger, large.....₩ gr 7.00
.....50%
Pat. Auger, Ives'.....30&10%
Pat. Auger, Douglass.....₩ set $1.25
Pat. Auger, Swan's.....₩ set $1.00
Hoe, Rake, Shovel, &c.....60@60&5%

Hangers—

Barn Door, old patterns.....70@70&5%
Barn Door, New England.....70@70&5%
Samson Steel Anti-Friction.....55%
Orleans Steel.....55%
Hamilton Wrought Steel Track.....55%
U. S. Wood Track.....65%
Champion.....60&10%
Climax Anti-Friction.....55%
Climax Anti-Friction for Wood Track.55%
Zenith for Wood Track.....55%
Reed's Steel Arm.....50%
Challenge, Barn Door.....50%
Sterling.....50&10%
Victor, No. 1, $15.00; No. 2, $16.50; No. 3, $18.00.....50&2%
Cheritree.....50&10%
Kidder's.....50@50&10%
Boss.....60&10@60&10&5%
Best Anti-Friction.....60&10@60&10&5%
Duplex (Wood Track).....60&10&5%
Terry's Modern Anti-Friction (all steel) 50&10@50&10&5%
Terry's Ideal Anti-Friction (all steel)... 50&10@50&10&5%
Terry's Solid Anti-Friction (all steel)... 50&10@60%
Terry's Shield Anti-Friction (all steel).. 50&10@60%
Terry's Wrought Single Strap..50&10@ 50&10&10%
Cronk's Patent, Steel Covered.....50&10%
Wood Track Iron Clad, ₩ ft. 10¢.....50 &15@60%
Carrier Steel Anti-Friction.....50&10%
Architect, ₩ set $6.00.....20%
Eclipse.....20&10%
Felix, ₩ set $4.50.....20%
Richards'.....30@30&10%
Lane's New Standard.....50@50&5%
Lane's Standard.....50&5@50&10%
Lane's Parlor.....40%
Ball Bearing Door Hanger.20&10@25&10%
Warner's Pat.....20&10@20&10&10%
Stearns' Anti-Friction..20&10@20&10&10%
Stearns' Challenge.....25&10@25&10&10%
Faultless.....40@40&5%
American, per set $6.00.....20&10%
Paragon, Nos. 1, 2 and 3.....40&10%
Cincinnati.....25&10%
Paragon, Nos. 5, 5¼, 7 and 8.....20&10%
Crescent.....60@60&10%
Nickel, Steel, Nos. 0, 1, $25; 1, $20; 2, $15. 40&10%
Scranton Anti-Friction Single Strap.33⅓%
Wild West, 4 in. Wheel, $15.00; 5 in. Wheel, $21.00.....45%
Star.....40&10@40&10&5%
May.....50&5@50&10%
Barry, $6.00.....40&10%
Interstate.....50@50&10%
Magic.....45%
Pendulum, Pawson's.....40@40&10%
Moody.....45%

Harness Snaps—See *Snaps.*

Hatchets—

American Axe and Tool Co.
Hood's.....
Hunt's.....
Hurd's.....
Mann's.....
Peck's.....
Underhill's.....
Buffalo Hammer Co.....
Fayette R. Plumb.....
C. Hammond & Son.....
Kelly's.....
Sargent's & Co.....
P., S. & W. Co.....
Ten Eyck Edge Tool Co.....
40 & 10 @ 50&5%
Collins.....10%
Schulte, Lohoff & Co.....50@50&5%

Hay and Straw Knives—

See *Knives.*

Hinges—

Blind Hinges—

Parker.....75&2%
Huffer.....50%
Clark's, Nos. 1, 3, 5, 40 and 50..80@80&5%
Clark's Surprise Gravity.....50%
Sargent's, Nos. 1, 3, 5, 11, 12, 13.75@75&10%
Reading's Gravity.....75&10@75&10&5%
Shepard's.
Noiseless.....75&10%
Niagara.....80%
Buffalo.....80%
Clark's Genuine Pattern.....80%
O. S., Lull & Porter.....75&10%
Acme, Lull & Porter.....75%
Queen City Reversible....70&10&5@75%
Clark's, Lull & Porter, Nos. 0, 1, 1½, 2, 2½, 3.....75&10&2½%
North's Automatic Blind Fixtures, No. 2, for Wood, $9.00; No. 3, for Brick, $11.50.....10%

Gate Hinges—

Western.....₩ doz $4.20, 60@60&10%
N. E.....₩ doz $7.80, 60@60&10%
N. E. Reversible ₩ doz..$5.60, 6 @60&10%
Clark's, Nos. 1 2, 3.....60&10&5%
N. Y. State.....₩ doz $4.90,60@60&10%
Automatic.....₩ doz $12.50, 50%
Shepard's.....60&10&5%

Spring Hinges—

Geer's Spring and Blank Butts....40%
Union Spring Hinge Co.'s list, March, 1886.....20%
Barker's Double Acting.....25%
Union Mfg. Co.....25%
Bommer's.....30%
Buckman's.....15@20%
Chicago.....30%
Bardsley's Patent Checking.....15%
Acme.....30%
U. S.....25&10%
Empire and Crown.....20%
Hero and Monarch.....55%
American, Gem and Star.....20%
Oxford.....20%
Royal.....60%
Reliable.....60%
Champion.....60%
No. 10 Matchless.....60%
No. 25 Unbreakable.....60%
J. G. C. Covered, ₩ gro., $30.....50&5%
Samson.....60@60& ½%
Wiles', No. 1, ₩ gro., $16; No. 2.....$13
Devore, No. 1.....₩ gro , $13.00
Rex.....₩ gro., $13.00
Freeport.....₩ gro., $12.00
Extra 5@10% often given.

Wrought Iron Hinges—

List February 14, 1891.
Strap and T.....50&10@50&10&5%
Corrugated Strap and T.....50&10&5%
Screw Hook and Strap. 6 to 12 in., ₩ ℔.. 4¢; 14 to 20 in., ₩ ℔..3½¢; 22 to 36 in., ₩ ℔.. 3¢
Screw Hook and Eye. ⅜ in., ₩ ℔ 7¾¢; ⅝ in., ₩ ℔ 5¾¢; ¾ in., ₩ ℔ 4¾¢
Rolled Blind Hinges, Nos. 32 and 34 50&10%
Rolled Blind Hinges, Nos. 232 and 234 55&10%
Rolled Plate.....70&10%
Rolled Raised.....70&10¢
Plate Hinges "Providence" 8, 10 & 12 in., ₩ ℔.....5¢; over 12 in. ₩ ℔.....4¢

Hoes—

Eye—

D. & H. Scovil.....20%
Lane's Crescent, Planters' Pattern.45&5%
Lane's Razor Blade, Scovil Pattern...30%
Maynard, S. & O. Pat.....45&5%
Sandusky Tool Co., S. & O. Pat } 70@70& 5%
Am. Axe and Tool Co., S. & O. Pat.....
Chattanooga Tool Co., S. & O. Pat..60& 5@60&10%
Grub.....60&10%

Handled—

Garden, Mortar, &c.....70@70&5&2%
Planter's, Cotton, &c.....70@70&5&2%
Warren Hoe.....60@60&5%
Magic.....₩ doz $4.00

Hog Rings and Ringers—

See *Rings and Ringers—*

Hoisting Apparatus—

See *Machines, Hoisting.*

Hollow-Ware—

See *Ware, Hollow.*

Holders—

Bag—

Sprengle's Pat.....₩ doz $18....60%

Bit—

Extension.
Barber's, ₩ doz $15.00.....40@40&10%
Ives, ₩ doz $20.00.....60&5@60&10%
Diagonal.....₩ doz $24.00, 40%
Angular.....₩ doz $24.00, 40&5%

File and Tool—

Bals Pat.....₩ doz $4.00, 25%
Nicholson File Holders.....20%
Dick's Tool Holder.....20%

Hooks—

Cast Iron—

Bird Cage, Sargent's List.....
Bird Cage, Reading.....
Clothes Line, Sargent's list.....
60&10@60&10&10%
Clothes Line, Reading list. 60&10@60&10&10%
Ceiling, Sargent's list.....55&10&10%
Harness, Reading list..55&10@55&10&10%
Coat and Hat, Sargent's list. 55&10@60&10%
Coat and Hat, Reading. 50&10@50&10&10%

Wrought Iron—

Cotton.....₩ doz $1.25
Cotton Pat. (N. Y. Mallet and Handle W'ks.....30%
Tassel and Picture, T. & S. Mfg.Co....50%
Wrought Staples, Hooks, &c. See Wrought Goods

Wire—

Wire Coat and Hat, Gem, list April, 1886.....60@60&10
Wire Coat and Hat, Miles, list April, 1886.....50@50&10%
Indestructible Coat and Hat...45@45&5%
Wire Coat and Hat, Standard.60@60&10%
Handy Hat and Coat.....50&10@60%
Steady Ceiling Hooks.....50&10@60%
Belt.....80&15@80&20%
Atlas, Coat and Hat.....65%
Williamson's Bird Cage Hooks, List April, 1892.....40%
Bright Wire Goods—See Wire.

Miscellaneous—

Grass, No. 2, $2.00; No. 3, $2.10; No. 4, $2.25
Nolin's Grass.....₩ doz $2.25
Bush.....55@60%
Whiffletree—Patent.....55%
Hooks and Eyes—Malleable Iron. 70@70&10%
Hooks and Eyes—Brass.....60@10&10%
Fish Hooks, American.....50%
Bench Hooks—See Bench Stops.

Horse Nails—See *Nails, Horse*

Horse Shoes—

See *Shoes, Horse.*

Hose, Rubber—

Competition.....75@75&10&5%
Standard.....60&10&10@70&10%
Extra.....60@60&10%
N. Y. B. & P. Co., Para.....25&5%
N. Y. B. & P. Co., Extra.....40@40&5%
N. Y. B. & P. Co., Dundee.....50&10@60%

Huskers—

Blair's Adjustable.....₩ gr $8.00
Blair's Adjustable Clipper.....₩ gr 7.00
Hubbard's Solid Steel.....₩ gr 4.50

Indurated Fiber Ware—

See *Ware, Indurated Fiber.*

Irons.

Sad—

From 4 to 10, at factory....₩ 100 ℔. $2.30@$2.40
Self-Heating.....₩ doz $8.00
Self-Heating Tailors'.....₩ doz $18.00
Enterprise Irons, list Jan. 17, 1893....30%
Enterprise Star Irons, list Jan. 17, '93..30%
Crown.....60&10@60&10&5%
Ideal Irons, new list...50&10@50&10&10%
Salamander Irons.....25%
B. B. Sad Irons, ₩ ℔.....3@3¼¢
Combined Fluter and Sad Iron, ₩ doz. $15.00.....15%
Fox Reversible Self-Fluter, ₩ doz..$24.00
Chinese Laundry (N.E.Butt Co.).8½¢, 15%
New England.....5¢, 15%
Mahony's Troy Pol. Irons.....25%
Sensible, list Jan. 91.....50&10&5%
Sensible Tailor's Irons.....33⅓%
National Self-Heating.....30%

Soldering—

Soldering Coppers.....₩ ℔ 19@21¢
Covert's Adjustable, list, Jan. 1, 1886, 35&2%

Pinking—

Pinking Irons, ₩ doz., 55@60¢.

Jack Screws—See *Screws.*

Jacks, Wagon—

Daisy.....33⅓%
Victor.....33⅓%
Lockport.....40%

Kettles—

Brass, Spun, Plain, list Jan. 1, '91..25&5%
Brass, Spun, Pld.W.M.list Jan. 1, '91..20%
Enameled and Tea—See *Ware, Hollow.*

Keys—

Lock, Ass'n list Dec. 30, 1886.50&10@ 60&5%
Eagle, Cabinet, &c.....33⅓&2%
Hotchkiss' Brass Blanks.....40%
Hotchkiss' Copper and Tinned.....40%
Hotchkiss' Pad. and Cab.....35%
Ratchet Bed Keys.....₩ doz. $4.00, 15%
Wollensak Tinned.....50&10%

Knife Sharpeners—

See *Sharpeners, Knife.*

Knives—

Butcher, Shoe, &c.

Wilson's Butcher Knives, List Dec 8, 1890.....25%
Ames' Butcher Knives.....25%
Foster Bros.' Butcher, &c.....40%
Jordan's Aa A1 Butchers', list.....net
Nichols' Butcher Knives.....40&10%
W. W. Wilson, Butcher, 6 in., $2.00; 7 in., $2.70; 8 in., $3.80, &c.
Ames' Shoe Knives.....20@25%
Ames' Bread Knives, ₩ doz $1.50, 15@20%
Moran's Shoe and Bread.....20@20&10%
Hay and Straw—See Hay Knives.
Table and Pocket—See Cutlery.

Corn—

Bradley's.....10%
Wadsworth's.....25@25&10%

Drawing—

Witherby.....
P., S. & W.....
Mix.....
New Haven.....
.....75@75&10&5%
Merrill.....60&10@60&10&5%
Douglass.....75&75@5%
Watrous.....15&10@25%
L. & I. J. White.....30&5%
Bradley's.....30%
Adjustable Handle.....25@33⅓%
Wilkinson's Folding.....25@35&5%

Hay and Straw—

Lightning, from jobbers....$8.00@$9.00
Wadsworth's.....40&7½@40&10%
Carter's Needle...₩ doz. $11.00@$11.50
Heath's.....₩ doz. $13.00@$13.50
Nolin's Hay.....₩ doz. $7.00@$8.00%

Mincing—

Am. (2d quality), ₩ gr., 1 blade, $7 2 blades, $12; 3 blades, $18.....net
Lothrop's.....20&10%
Smith's, ₩ doz., Single, $2; Double $3 45@50%
Knapp & Cowles.....50&10@60%
Buffalo Adjustable....₩ doz. $3.00, 33⅓%

Knobs—

Door, Mineral.....60@65%
Door, Por. Jap'd.....70@75%
Door, Por. Nickel.....$2.00@$2.25
Door, Por. Plated Nicke..l....$2.00@$2.25
Drawer, Porcelain.....60&10@60&10&10%
Hemacite Door Knobs.....40&10@50%
Yale & Towne Wood, list Dec., 1885...40%
Furniture Plain.....75¢ gro inch, 10%
Furniture, Wood Screws.....25&10%
Base, Rubber Tip.....70&10&5%
Picture, Judd's.....60&10&10@70%
Picture, Sargent's.....70&10%
Picture, Hemacite.....35&5%
Shutter, Porcelain.....65&1%
Carriage, Jap.....₩ gro 80¢, 60&10%
Bardsley's Wood Door, Shutter, &c...15%

Ladles—

Melting, Sargents'.....60@60&5%
Melting, Reading.....35&10%
Melting, Monroe's Pat...₩ doz $4.00, 40%
Melting, P., S. & W.....35&10@40%
Melting, Warner's.....30%

Lanterns—

Tubular—

Regular, with Guard.....₩ doz $3.50
O. K., with Guard.....₩ doz $3.75
Side Lift, with Guard.....₩ doz $4.00
Square Lift, with Guard.....₩ doz $4.25
Anti-Friction, with Guard....₩ doz $4.50
Brass Plated, Sq. Lift, Guard.₩ doz $5.50
Cop. Plated, Sq. Lift, Guard..₩ doz $5.50

Bull's Eye Police—

2¾-inch regular.....₩ doz $3.00
3-inch regular.....₩ doz $3.90
2¾-inch flash light.....₩ doz $4.00
3-inch flash light.....₩ doz $4.50

Lawn Mowers—

See *Mowers, Lawn.*

Leaders, Cattle—

Humason, Beckley & Co.'s.....70%
Sargent's.....70&10@70&10&10%
Hotchkiss.....30%
Peck, Stow & W. Co.....60&10%

Lemon Squeezers—

See *Squeezers, Lemon.*

Lifters, Transom—

Wollensak's:
Class 3 and 4, Bronzed Iron.....50%
Class 3 and 4, Bronze Metal.....25%
Class 3 and 4, Brass.....35%
Skylight Lifters.....35%
Crown, Eagle and Shield.....50%
Reiher's, list Feb. 20, 1891
Bronzed Iron Rods.....50&10&10&2%
Brass, Real Bronze or Nickel Plate..30%
Excelsior.....50&10&2%
Shaw's.....50&10%
Payson's:
Universal.....60%
Solid Grip.....60&10@60&10&10%
Imperial.....50&10%

Lines—

Cotton and Linen Fish, Draper's.....50%
Draper's and Tate's Chalk.....60%
Draper's Masons' Linen, 84 ft., No. 1, $1.25; No. 2, $1.75; No. 3, $2.25; No. 4, $2.75; No. 5, $3.25.....35%
Cotton Chalk.....55%
Samson Cotton, No. 4, $2; No. 4½, $2.50. 10%
Silver Lake, Braided, No. 0, $6.00; No. 1, $6.50; No. 2, $7.00; No. 3, $7.50 ₩ gro.....25%
Mason's Linen, No. 3½, $1.50; No. 4, $2.00; No 4½, $2.50.
Mason's Colored Cotton.....45%

Wire Clothes..	Nos. 18	19	20
100 ft.	$3.50	$3.00	$2.50

Ventilator Cord, Samson Braided White or Drab Cotton..₩ doz $7.50..20%
Ossawan Mills, Chalk, Twisted, 60%; Chalk, Soft Braided, 50% Chalk, Braided, 25%.

Links, Open—

Terry's—per gro.:

Nos.	1	2	3	4
	$6.00	8.00	12.00	16.00

Locks, &c.—

Cabinet—

Eagle, Gaylord Parker and Corbin... List March, '84, rev. Jan. 1, '85.33⅓&2%
Deitz, Nos. 36 to 39.....40%
Deitz, Nos. 51 to 63.....40&10%
Deitz, Nos. 87 to 96.....50%
Stoddard Lock Co.....30@33⅓%
"Champion" Night Latches.....40%
Barnes Mfg. Co.....40@40&10%
Eagle and Corbin Trunk.....25&10%
"Champion" Cab. and Combin...33⅓%
Yale.....net prices
Romer's.....25%

Door, Locks, Latches, &c.—

R. & E. Mfg. Co., list Mar.20, 1889.....65&10&10% Much lower net prices often made
Mallory, Wheeler & Co., list July, '88.....
Sargent & Co., List Aug.1,'88
Branford Lock Works.....

Brittan, Graham & Mathes, list Jan. 1890.....60&10&10%
Perkins' Burglar Proof.....60&25%
Plate.....33⅓&2%
Barnes Mfg. Co.....40@40&10%
Yale.....net prices
Deitz Flat Key.....30%
L. & C. Round Key Latches.....30&10%
L. & C. Flat Key Latches.....33⅓&10%
Romer's Night Latches.....15%
Brooklyn Latches.....50&10%
Shepardson or U. S.....35%
Reed's N. Y. Hasp Lock.....25%
Warner's Burglar Proof, ₱ doz. $8.00, 50%

Padlocks—

List June 10, 1891.....50&2%
Norwich Lock Mfg. Co., old list....50&2%
Yale Lock Mfg. Co.'s.....net prices
Eagle.....40%
Eureka, Eagle Lock Co.....40&2%
Romer's Nos. 0 to 91.....30%
Romer's Scandinavian, &c., Nos. 100 to 505.....15%
A. E. Deitz.....40%
Champion Padlocks.....40%
Hotchkiss.....30%
Star.....60%
Horseshoe.....₱ doz $9, 40@40&10%
Barnes Mfg. Co.....40@40&10%
Nock's.....30%
Brown's Pat.....25%
Scandinavian.....90&40%
R. T. Fraim's Keystone Scandinavian, Nos. 119, 120, 130 and 140.....90&10%
Other Nos.....65%
Ames Sword Co. up to No. 150.....40%
Ames Sword Co. above No. 150.....50%
Slaymaker, Barry & Co.
No. 1010 line.....90&5%
No. 41 line.....50&5%
No. 61 line.....60&5%
No. 21 line.....75&10%

Sash, &c.—

Clark's No. 1, $10; No. 2, $8 ₱ gr.....33⅓&5
Ferguson's.....33⅓%
Victor.....60&10&2%
Walker's.....10%
Attwell Mfg. Co.....25&33⅓&5
Reading.....60%&10@60%&10@10%
Hammond's Window Springs.....40%
Common Sense, Jap'd, Cop'd and Br'sed.....₱ gr $4.00
Common Sense, Nickel Plated. ₱ gr $10.00
Universal.....30%
Kempshall's Gravity.....60%
Kempshall's Model.....60@60&10%
Corbin's Daisy, list Feb. 15, 1886.....70%
Payson's Perfect.....60&10&10%
Huguniu's Sash Balances.....25&5&2%
Huguniu's New Sash Locks.....25&5&2%
Stoddard's "Practical".....10%
Ives Patent.....60&10&5@60&10&10%
Fish (Liesche's pat.), No. 100, ₱ gr., $8; No. 105, ₱ gr., $10.....50%
Davis, Bronze, Barnes Mfg. Co.....70%
Champion Safety, list January, 1890..40%
Security.....70%
Giant, list Jan., 1892.....70&5%
Wolcott's.....60&10&5%
Monarch.....50%

Lumber Tools—

See Tools, Lumber.

Lustro—

Four-ounce bottles.....₱ doz, $1.75; ₱ gross.....$17.00

Machines.

Boring—

	Without Augers.	Upright.	Angular.	
Douglas	$5.50	$6.75		50%
Snell's, Rice's Pat...	5.50	6.75	40&10&10%	
Jennings'	5.50	6.75	45&45&10%	
Other Machines..	2.35	2.75		
Phillips' Patent with Augur	7.00	7.50		
Miller's Falls	7.50			25%

Fluting—

Knox, 4¼ inch Rolls.....$3.25 each } 35%
Knox, 6-inch Rolls.....$3.60 each }
Eagle, 3¼-inch Rolls, $2.15.....35%
Eagle, 5¼-inch Rolls, $2.85.....35%
Crown, 4½ in., $3.50; 6 in., $4.00; 8 in., $6.50 each.....35%
Crown Jewel, 6 in.....$3.50 each, 35%
American, 5 in., $3.00; 6 in., $3.40; 7 in., $4.50 each.....35%
Domestic Fluter.....each, $1.50
Geneva Hand Fluter, White Metal. ₱ doz $12, 25%
Crown Hand Fluter, Nos. 1, $15.00; 2, $12.50; 3, $10.00.....30%
Shepard Hand Fluter, No. 85, per doz $15.50.....40%
Shepard Hand Fluter, No. 110, ₱ doz $11.00.....40%
Shepard Hand Fluter No. 95, ₱ doz $8.00.....40%
Clark's Hand Fluter, ₱ doz $15.00....35%
Combined Fluter and Sad Iron. ₱ doz $15.00.....30%
Buffalo, ₱ doz $10.00.....10%

Hoisting—

Moore's Hand Hoist, with Lock Brake.20%
Moore's Differential Pulley Block.....40%
Energy's Mfg. Co.'s.....25%
Sure Grip Steel Tackle Blocks.....25%

Washing—

Anthony Wayne, ₱ doz, No. 1, $51; No. 2, $45; No. 3, $42.
Western Star ₱ doz, No. 2, $45; No. 2 $48.
Weisell.....₱ doz $54.00
Fair and Square.....₱ doz $42.00

Mallets—

Hickory.....20&10@20&10&10%
Lignum vitæ.....20&10@20&10&10%
S. & L. Block Co., Hickory & L. V. 30@30&10%

Mattocks—Regular list, 60&10@60&10&5%

Measures—

Standard Fiberware, No. 1, peck ₱ dozen, $4; ½-peck, $3.50.

Meat Cutters—

See Cutters, Meat.

Menders, Harness—

Per doz.....$2.00

Mills—

Coffee—

Box and Side, List Jan. 1, 1888, 60@60&10%
Net prices are often made which are lower than above discount.
American, Enterprise Mfg. Co., list Jan. 17, 1893.....20%
The Swift, Lane Bros.....30%

Mincing Knives—

See Knives, Mincing.

Molasses Gates—

See Gates, Molasses.

Money Drawers—

See Drawers, Money.

Mowers, Lawn—

Philadelphia.....60&10%
Pennsylvania and Continental.....60%
New Model and Excelsior.....60@60&10%
Other Machines, following net prices: 10-in. $3; 12-in., $3.25; 14-in., $3 50 each

Muzzles—

Safety.....₱ doz, $3.00, 25%

Nails.—

Cut and Wire. See Trade Report.
Wire Nails, Papered.
Association list, May 1, '92.80&10&10&5%
Tack Mfrs.' list.....70&5&70&10%
Hungarian, Finishing, &c. *See Tacks.*

Horse—

	Nos. 6	7	8	9	10	
American	8¾	8¾	8¾	8¾	8¾	.net
Ausable	28¢	26¢	25¢	24¢	23¢	40&5&5&2%
Clinton, Fin.	19¢	17¢	16¢	15¢	14¢	.30&10%
Essex	28¢	26¢	25¢	24¢	23¢	40&5&5&2%
Lyra	19¢	17¢	16¢	15¢	14¢	.40&10%
Snowden	19¢	17¢	16¢	15¢	14¢	.40&10%
Vulcan	23¢	21¢	20¢	19¢	18¢	.25%
Northwest'n.	25¢	23¢	22¢	21¢	20¢	25@25&5%
A. C.	25¢	23¢	22¢	21¢	21¢	25&10@33⅓&5%
C. B. K.	25¢	23¢	22¢	21¢	21¢	33⅓@33⅓&10%
Maud S.	25¢	23¢	22¢	21¢	21¢	40&10&5%
Champlain	28¢	26¢	25¢	24¢	23¢	40&5&5&2%
Saranac	23¢	21¢	20¢	19¢	18¢	...40&5%
Champion	25¢	23¢	22¢	21¢	20¢	10&10&10%
Capewell	19¢	18¢	17¢	16¢	16¢	...10&5%
Anchor	23¢	21¢	20¢	19¢	18¢	.....30%
Western	23¢	21¢	20¢	19¢	18¢	.....50%
Empire Bronzed						.13@14 ₱ ℔

Picture—

Brass Head, Sargent's list.....60@60&10%
Brass Head, Combination list.....50&10%
Porcelain Head, Sargent's list.50&10&10%
Porcelain Head, Combination list.40&10%
Niles' Patent.....40%

Nail Pullers—*See Pullers, Nail.*

Nail Sets—*See Sets, Nail.*

Nut Crackers—

See Crackers, Nut.

Nuts—List Dec. 18, 1889.

	Square.	Hex.
Hot Pressed	5.80¢	6.50¢ off list
Cold Punched	5.00¢	5.10¢ off list

In packages of 100 ℔, add 1-10¢ ₱ ℔, net; in packages less than 100 ℔, add ½¢ ₱ ℔, net.

Oakum—

Best or Government. .....₱ ℔ 6¾@7¼¢
U. S. Navy.....₱ ℔ 5¾@6¢
Navy.....₱ ℔ 5¢@5¼¢

Oilers—

Zinc and Tin.....65&10@70&5%
Brass and Copper.....50&10@50&10&5%
Malleable, Hammers' Improved, No. 1, $3.60; No. 2, $4.00; No. 3, $4.40 ₱ doz. 10@10&5%
Malleable, Hammers' Old Pattern, same list.....45%
Prior's Pat. or "Paragon" Zinc. 60&10&10%
Prior's Pat. or "Paragon" Brass.....50%
Olmstead's Tin and Zinc.....60%
Olmstead's Brass and Copper.....50%
Broughton's Zinc.....60%
Broughton's Brass.....50%
Gem, P., D. & Co.....₱ gro. $2
Steel, Draper & Williams.....50%

Openers Can—

Messenger's Comet.....₱ doz $3.00, 25%
American.....₱ gross $2.75@$3.00
Duplex.....₱ doz 25¢, 15@20%
Lyman's.....₱ doz $3.75, 20%
No. 4, French.....₱ doz $2.25, 55&60%
No. 5, Iron Handle.....₱ gr $6.00, 45@50%
Eureka.....₱ doz $2.50, 10%
Sardine Scissors.....₱ doz $2.75@3.00
Star.....₱ doz $2.75
Sprague, No. 1, $2.00; 2, $2.25; 3, $2.50; 65&&70%
Excelsior, No. 1 $2.50; No. 2, $1.50.....40%
World's Best ₱ gross, No. 1, $12.00; No. 2, $24.00; No. 3, $36.00.....50&10%
Universal, ₱ doz $3.00.....55&5%
Domestic, ₱ doz $2.00.....45%
Champion, ₱ doz $2.00.....50%

Packing, Steam—

Rubber—

Standard.....70@70&10%
Extra.....60@60&5%
N. Y. B. & P. Co., Standard.....50%
N. Y. B. & P. Co., Empire.....60%
N. Y. B. & P. Co., Salamander.....25%
Jenkins' Standard, ₱ ℔ 80¢....25@25&5%

Miscellaneous—

American Packing.....10¢@11¢ ₱ ℔
Russia Packing.....14¢ ₱ ℔
Italian Packing.....18¢@14¢ ₱ ℔
Cotton Packing.....15¢@17¢ ₱ ℔
Jute.....8¢@8¢ ₱ ℔

Pails—

Galvanized—

	Quarts	10	12	14
Hill's Light Weight, ₱ doz.	$2.75	3.00	3.25	
Hill's Heavy Weight, ₱ dz.	3.00	3.25	3.75	
Helwig's	2.50	2.75	3.00	
Sidney Shepard & Co.	2.35	2.85	3.05	
Iron Clad	2.50	2.75	3.00	
Fire Buckets	2.75	3.25	3.50	

Buckets—See Well Buckets.

Indurated Fiber Ware—25%

Star Pails, 12 qt.....₱ doz $4.20
Milk, 14 qt.....₱ doz $5.40
Stable, 14 qt.....₱ doz $6.00
Fire Pails, deep.....₱ doz $4.80
Fire Pails, round bottom.....₱ doz $5.40

Standard Fiber Ware—

	Plain.	Decr'd
Water Pails, 12 qt., ₱ doz.	$4.00	$4.50
Dairy Pails, 14 qt., ₱ doz.	4.50	5.00
Fire Pails, No. 1, 12 qt., ₱ doz	4.50	
Fire Pails, No. 2, 14 qt., ₱ doz	5.00	
Sugar Pails	6.00	6.50
Horse Pails	5.00	
Buggy Pails	4.00	
Slop Jars (bal. trap)	8.00	9.00
Chamber Pails, 14 qt.	6.50	7.50

Pans—

Dripping—

Small sizes.....₱ ℔ 5½¢
Large sizes.....₱ ℔ 5¢
Silver & Co. (Covered).....40%

Fry—

Standard List:

No.	0	1	2	3	4
₱ doz.	$3.00	$3.75	$4.25	4.75	$5.25
No.	5	6	7	8	
₱ doz.	$6.00	$7.00	$8.00	$9.00	

Polished, regular goods.....75@75&10%
Acme Fry Pans.....60@5%

Dust—

Steel Edge, No. 1.....₱ doz $1.75

Paper and Cloth—

Sand and Emery—

List April 19, 1886.....50&10@50&10&5%
Sibley's Emery and Crocus Cloth.....30%

Parers—

Apple—

Advance.....₱ doz $4.75
Baldwin.....₱ doz 5.25
Bonanza.....each 3.00
Daisy.....₱ doz 4.00
Dandy.....each 7.50
Eclipse.....₱ doz 4.25
Eureka, 1888.....each 16.00
Family Bay State.....₱ doz 12.00
Favorite.....₱ doz 5.00
Gold Medal.....₱ doz 4.00
Ideal.....₱ doz 4.00
Improved Bay State....₱ doz 27.00@30.00
Little Star.....₱ doz 4.50
Monarch.....₱ doz 13.50
New Lightning.....₱ doz 5.50
Oriole.....₱ doz 4.00
Penn.....₱ doz 4.00
Perfection.....₱ doz 4.00
Pomona.....₱ doz 4.00
Rocking Table.....₱ doz 6.00
Turn Table.....₱ doz 4.50
Victor.....₱ doz 13.50
Waverly.....₱ doz 4.00
White Mountain.....₱ doz 4.00
72.....₱ doz 4.25
78.....₱ doz 7.00

Potato—

White Mountain.....₱ doz $4.50
Antrim Combination.....₱ doz $5.50
Hoosier.....₱ doz $13.50
Saratoga.....₱ doz $5.50

Pencils—

Faber's Carpenters'.....high list 50%
Faber's Round Glit.....₱ gro $5.25
Dixon's Lead.....₱ gro $4.50
Dixon's Lumber.....₱ gro $6.75
Dixon's Carpenters'.....10%

Picks—

Railroad or Adze Eye, 5 to 6, $12.00; 6 to 7, $13.00.....60&10@60&10&5%

Picture Nails—

See Nails, Picture.

Pinking Irons—

See Irons, Pinking.

Pins—

Bow—

Humason, Beckley & Co.'s.....60&10%
Sargent & Co.'s, $17 and $18.....60&10%
Peck, Stow & W. Co....50&10&50&10&5%

Curtain—

Silvered Glass.....net
White Enamel.....net

Escutcheon—

Iron, list Nov. 11, 1885..50&10@50&10&5%
Brass.....60@60&5%

Pipe, Wrought Iron—

List October 12, 1892.

1¼ and under, Plain.....60@60&5%
1¼ and under, Galv.....52½@52½&5%
1½ and over, Plain.....70@70&5%
1½ and over, Galv.....60@60&5%
Boiler Tubes, list Oct. 24, 1892.....65& ½
Casing, list Nov. 16, 1892.....52½&5%
Inserted Joints Casing, list Nov. 16, 1892.....47½&5%
Steel Boiler Tubes.....27½&5%
Cold Drawn Seamless Steel Tubing..50%

Planes and Plane Irons—

Wood Planes—

Molding.....40&2%
Bench, First quality.....45&2%
Bench, Second quality.....50&2%
Bailey's (Stanley R. & L. Co.).....50&10%

Iron Planes—

Bailey's (Stanley R. & L. Co.).....50&10%
Miscellaneous Planes (Stanley R. & L. Co.).....25&10%
Steers' Iron Planes.....40&10%
Meriden Mal. Iron Co.'s.....40@40&10%
Davis' Iron Planes.....40@40&10%
Birmingham Plane Co.....50@50&10%
Gage Tool Co.'s Self-Setting...20&10&10%
Chaplin's Iron Planes.....40@40&10%
Sargent's.....60%
Standard Tool Co.....50@50&5%

Plane Irons—

Butcher's.....$5.00@$5.25 to ₱
Buck Bros.....30%
Auburn Thistle, Ohio, Sandusky } ....30&10%
L. & I. J. White.....25%
Stanley R. & L. Co.....50&10%

Plates—

Felloe.....₱ ℔ 6¢@6½¢

Pliers and Nippers—

Button's Patent.....60%
Hall's No. 2, 5 in., $13.50; No. 4, 7 in., $21.00 ₱ doz.....40%
Humason & Beckley Mfg. Co..50@50&10%
Lindsay's Giant.....33⅓%
Gas Pliers.....60%
Gas Pliers, Custar's Nickel Plated..60&5%
Eureka Pliers and Nippers.....40%
Russell's Parallel.....25%
P., S. & W. Cast Steel.....50%
P., S. & W. Tinners' Cutting Nippers, add 6%.....10%
Carew's Pat. Wire Cutters.....20%
Morrill's Parallel, ₱ doz, $12.00....30&5%
Cronk's 8 in., $15.00; 10 in., $21.00..... 50@50&5%
Cronk's Button Pattern.....50&10@60%
Cronk's Carrier Pliers.....60@60&5%

Plumbs and Levels—

Regular List.....75&10@75&10&5%
Stanley's Duplex.....20&10%
Stanley's Handy.....20&10%
Disston's.....50%
Pocket Levels .....70&10@70&10&10%
Davis Iron Levels.....30%
Davis' Inclinometers.....10&10%

Poachers, Egg—

Buffalo Steam Egg Poachers, ₱ doz, No. 1, $6.00; No. 2, $9.00.....33⅓
Silver & Co., 6-Ring, ₱ doz, $4.00; 3-Ring.....$2.00

Pokes, Animal—

Bishop's I. X. L.....₱ doz $6.00
Bishop's O. K.....₱ doz $5.25
Bishop's Pioneer.....₱ doz $3.75
Bishop's American.....₱ doz $2.75
Eagle, Double Stale.....₱ doz $5.75
Eagle, Single Stale.....₱ doz $3.75
Buckeye, Single Stale.....₱ doz $2.75
Bolding.....₱ doz $6.00
Metallic Horse Poke.....₱ doz., $6.00

Police Goods—

R. I. Tool Co., Handcuffs, $15.00 ₱ doz 10%
R. I. Tool Co., Leg Irons, $25.00 ₱ doz 10%
Tower's.....25%
Daley's Improved Handcuffs; 2 Hands, Polished, ₱ doz, $48.00; Nickeled, $57.00; 3 hands, Polished, ₱ doz, $72.00; Nickeled, $84.00.....25%
J. P. Lovell's Police Goods.....25%

Polish—

Metal—

Prestoline.....30%
Prestoline Paste.....33⅓%
Gaston's Silver Compound.....33⅓%

Stove—

Joseph Dixon's.....₱ gro, $6.00, 10%
Gem.....₱ gro, $4.50, 10%
Gold Medal.....₱ gro, $6.00, 25%
Lustro.....₱ gro, $4.75
Ruby.....₱ gro, $3.75
Rising Sun, 5 gro lots.....₱ gro $5.50
Dixon's Plumbago.....₱ ℔ 8¢
Boynton's Noon Day.....₱ gro $13.00
Parlor Pride Stove Enamel, ₱ gro
Yates' Liquid, 2 3 5 10 gal
₱ gal...$0.80 .70 .60 .50
Yates Standard Paste Polish, 10 ℔ cans, ₱ ℔ 12½¢
Jet Black.....₱ gro $3.50
Japanese.....₱ gro $3.50
Fireside.....₱ gro $2.50
Diamond O. K. Enamel.....₱ gro $10.00
Bonnell's Liquid Stove Polish, ₱ gro $9.00
Bonnell's Paste Stove Polish, ₱ gro $6.00
Black Eagle Benzine Paste, 5 and 10 ℔ cans.....12½¢
Black Jack Water Paste, 5 and 10 ℔ cans.....12½¢
Nickel Plate Paste.....₱ gro $6.00
Crown Paste.....₱ gro $7.20
Crown Paste in 5 and 10 ℔ pails, ₱ ℔ 12¢
Black Flag.....₱ gro $7.20
Black Flag, 5 and 10 ℔ pails.....₱ ℔ 12¢
Black Flag, liquid, in bottles, ₱ gro $8.00
Diamond Rock Nickel Cleaner..... ₱ gro $10.20
Raven Paste:
5-lb. pails, (per case of 6 or 12), ₱ ℔ 12¢
Less than case.....₱ ℔ 15¢
Liquid, 6 oz. bottles.....₱ gross, $8.00
Liquid, 8 oz. bottles.....₱ gross, $9.00
Water Polish.....₱ gross, $5.85

Poppers, Corn—

Round or Square, 1 qt..₱ gr $10.00@10.50
Round or Square, 1½ qt..₱ gr $15@$15.50
Round or Square, 2 qt..₱ gr $18.50@19.00

Post Hole and Tree Augers and Diggers—

See Diggers, Post Hole, &c.

Potato Parers—

See Parers, Potato.

Pots—

Glue—

Tinned.....40&10@40&10&25%
Enameled.....40&10@40&10&5%
Family, Howe's "Eureka".....40%
Family, L. F. C.'s "Handy".....50%

Powder—

In Canisters—

Fine Sporting, 1 ℔ each.....$0.90
Duck, 1 ℔ each.....60
Rifle, 1 ℔ each.....30
Rifle, ½ ℔ each.....15
Rifle, ¼ ℔ each.....15

In Kegs—

Rifle, 25-℔ kegs.....$4.00
Rifle, 12½-℔ kegs.....2.25
Rifle, 6¼-℔ kegs.....1.25
Duck, 25-℔ kegs.....5.00
Duck, 12½-℔ kegs.....2.75
Duck 6¼ ℔ kegs.....1.50

Presses—

Fruit and Jelly—

Enterprise Mfg. Co. 25%
Henis ..... ₩ doz $3.50
Shepard's Queen City 40%
Silver & Co. ..... ₩ doz $2.75

Pruning Hooks and Shears—See *Shears.*

Pullers Nail—

Scranton ..... ₩ doz., $18.00, 33⅓%
Curtis Hammer ..... ₩ doz., $9.00
Giant, No. 1 ..... ₩ doz., $18.00, 10%
Giant, No. 2 ..... ₩ doz., $15.00, 10%
Pelican ..... ₩ doz., $9.00, 25%
Eclipse ..... Each, $2.00, net
Economy ..... ₩ doz., $6.00

Pulleys—

Hot House, Awning, &c. ..... 60%@70%
Japanned Screw ..... 60&10&10%
Brass Screw 70%
Japanned Side ..... 60&10&10%
Japanned Clothes Line ..... 60&10%
Moore's Sash, Anti-Friction 50%
Hay Fork, Solid Eye, $4.00; Swivel, $4.50 ..... 50&10@50&10&5%
Hay Fork, "Anti-Friction," 5 in. solid, $5.70 ..... 50%
Hay Fork, "F" Common and Patent Bushed 20%
Hay Fork, Tarbox Pat. Iron 20%
Hay Fork, Reed's Self-Lubricating 60%
Shade Rack 45%
Tackle Blocks—See Blocks.
Moore's Anti-Friction 5 in. Wheel, ₩ doz., $12.00 ..... 40%
Shepard's Niagara, No. 25 ..... 80%
Sash (Auger Mortise).
Common Sense 60%
Empire 60%
Ideal, Nos. 2, 4, 10 & 15 } 60% less 1¢ ₩
Acme } doz net.
Star }
On bbl. lots extra 5%.
Ideal, Nos. 25 and 55. .. ₩ doz. 22¢ net.

Pumps—

Cistern, Best Makers ..... 60@60&10%
Pitcher Spout, Best Makers ..... 67½@70%
Pitcher Spout, Cheaper G'ds .. 75@75&10%

Punches—

Saddler's or Drive, good .. ₩ doz., 60@65%
Bemis & Call Co.'s Cast Steel Drive .. 50&5%
Bemis & Call Co.'s Springfield Socket .... 50&5%
Spring, good quality .. ₩ doz., $2.50@$2.60
Spring, Leach's Pat 15%
Bemis & Call Co.'s Spring and Check .. 40%
Solid Tinners', P., S. & W. Co., ₩ doz., $1.44 ..... 55%
Tinners' Hollow Punches, P., S. & W. Co. ..... 20&2%
Rice Hand Punches 15%
Avery's Revolving 40%
Avery's Sawset and Punch—See Sawsets

Rail—

Sliding Door, Wr't Brass .. ₩ ℔, 35¢, 40%
Sliding Door, Bronzed Wr't Iron .. ₩ ft., 7¢
Sliding Door, Iron, Painted .. ₩ ft., 4¢, 40%
Barn Door, Light .. in. ¾ ⅝
Per 100 feet $2.00 2.50 3.10, 10%
B. D. for N. E. Hangers—

	Small.	Med.	Large.
Per 100 feet	$3.15	2.70	3.25 Net

Terry's Steel Rail ..... ₩ ft., 4¼¢
Victor Track Rail, 7¢ ₩ foot ..... 50&2%
Carrier, double braced, Steel Rail, ₩ foot ..... 3¼@4¢
Moore's Wrought Iron 25%
Moody Steel Rail, ₩ ft., 5¢ 45%

Rakes—

Cast Steel, Association g'ds .. 70@70&5&2%
Cast Steel, outside g'ds ..... 70@70&5&2%
Malleable ..... 70@70&5%
Gibbs' Lawn Rake ..... ₩ doz., $4.90
Gibbs' Canton Lawn Rake .. ₩ doz., $3.75
Gibbs' Acme Lawn Rake .. ₩ doz., $4.75
Gibbs' Favorite Lawn Rake, ₩ doz., $3.90
Gibbs' Crown Lawn Rake, No. 1 ..... ₩ doz., $4.90; No. 2, $3.40
Oneida Lawn Rake ..... ₩ doz., $6.00
Fort Madison Prize Bow Brace and Peerless 65%
Fort Madison Steel Tooth Lawn Rake, $6.00 ..... 25%

Razors—

J. R. Torrey Razor Co 20%
Westenholm and Butcher, $1.00 to £.... 10%
Jordan's AAA1, new list ..... Net
Jordan's Old Faithful, new list ..... Net
Galvanic ..... ₩ doz., $15.00
Electric Cutlery Co. ..... Net
Campbell Cutlery Co. 50%

Razor Strops—See *Strops, Razor.*

Rings and Ringers—

Bull Rings—

Union Nut Co. 55%
Sargent's ..... 75&10%
Hotchkiss' low list 30%
Humason, Beckley & Co.'s ..... 70&10%
Peck, Stow & W. Co.'s .. 50&10@50&10&10%
Ellrich Hdw. Co., White Metal, low list. 50@50&10%

Hog—

Top of the Hill Ringers ..... ₩ doz $2.00
Top of the Hill Rings ..... ₩ doz $1.25
Hill's Improved Ringers ..... ₩ doz $1.25
Hill's Old Style Ringers ..... ₩ doz $1.12½
Hill's Tongs ..... ₩ doz $3.00
Hill's Rings ..... ₩ doz bxs $1.00
Perfect Rings ..... ₩ doz bxs $1.50
Perfect Rings ..... ₩ doz $2.15@$2.25
Blair's Hog Ringers ..... ₩ doz $2.00
Blair's Hog Rings ..... ₩ doz 90¢@$1.00
Champion Ringers ..... ₩ doz $2.00
Champion Rings, Double ..... ₩ doz $2.25
Brown's Ringers ..... ₩ doz $2.00
Brown's Rings ..... ₩ doz $1.15@$1.25
Electric Hog Rings ..... ₩ doz boxes $1.50
Electric Hog Ringers ..... ₩ doz $2.00
Major Rings ..... ₩ doz $1.25
Major Ringers ..... ₩ doz $2.00

Rivets and Burrs—

Iron, list Nov. 17, '87 ..... 60&10@——%
Copper ..... 60@60&10%
Coppered Iron, Bettina Brand 40%

Rivet Sets—See *Sets.*

Rods—

Stair, Brass ..... 25@30%
Stair, Black Walnut ..... ₩ doz 40¢

Rollers—

Barn Door, Sargent's list ..... 60&10&10%
Acme Moore's Anti-Friction 55%
Union Barn Door Roller 70%
Thompson Mfg. Co.'s Sawn Rollers 30%

Rope—The following prices are f.o.b., New York or factory, and are shaded ¼@¾¢ on large lots; terms, 1½% for cash.

Manila, 7-16 in. diam. and larger ₩ ℔ 9¼¢
Manila ..... ⅜ in. ₩ ℔ 10¼¢
Manila ..... ¼ and 5-16 in. ₩ ℔ 10¾¢
Manila, Tarred Rope ..... ₩ ℔ 9¼¢
Manila, Hay Rope ..... ₩ ℔ 9¼¢
Sisal ..... 7-16 inch and larger ₩ ℔ 7¾¢
Sisal ..... ⅜ in. ₩ ℔ 8 ¢
Sisal ..... ¼ and 5-16 in. ₩ ℔ 8½¢
Sisal, Hay Rope ..... ₩ ℔ 7½¢
Sisal, Tarred Rope ..... ₩ ℔ 7 ¢
Sisal, Medium Lath Yarn ..... ₩ ℔ 7 ¢
New Zealand .. 7-16 in. & larger ₩ ℔ 6¾¢
New Zealand ..... ⅜ inch, ₩ ℔ 7¼¢
New Zealand .. ¼ and 5-16 inch, ₩ ℔ 7¾¢
New Zealand, Hay Rope ..... ₩ ℔ 6¾¢
New Zealand, Tarred Rope .... ₩ ℔ 6¼¢
Cotton Rope ..... ₩ ℔ 13½@16¢
Jute Rope ..... ₩ ℔ 6½@7¢

Wire—

List February, 1892. All kinds 45%

Rules—

Boxwood ..... 80&10&10%
Ivory ..... 50&10%
Starrett's Rules and Straight Edges, Steel ..... 25&10%

Sad Irons—See *Irons, Sad.*

Sand and Emery Paper and Cloth—

See *Paper and Cloth.*

Sash Cord—See *Cord, Sash.*

Sash Locks—*See Locks, Sash.*

Sash Weights—

See *Weights, Sash.*

Sausage Stuffers or Fillers—See *Stuffers or Fillers, Sausage.*

Saws—The following prices are generally cut by jobbers.

Disston's Circular ..... 45@45&5%
Disston's Cross Cut ..... 40@40&5%
Disston's Hand 25%
Woodrough & McParlin.
Hand, Panel and Rip ..... 30@30&5%
Narrow Champion Cross Cuts with Handles, ₩ foot ..... 18@20¢
Champion Thin Back Cross Cuts, ₩ foot ..... 26@28¢
Champion Extra Thin Back Cross Cuts, ₩ foot ..... 29@31¢
One Man Champion Cross Cuts, ₩ foot ..... 37@40¢
Wheeler, Madden & Clemson Mfg. Co.
Hand, Panel and Rip ..... 35@35&5%
Narrow Champion Cross Cuts with Handles, ₩ foot ..... 18@20¢
Champion Thin Back Cross Cuts, ₩ foot ..... 26@28¢
Champion Extra Thin Back Cross Cuts, ₩ foot ..... 29@31¢
One Man Champion Cross Cuts, ₩ ft. ..... 37@39¢
Atkins' Circular 50%
Atkins' Cross Cuts, new list 40%
Atkins' Mulay, Mill and Drag 40%
Atkins' One-Man Saw 40%
Peace Circular and Mill ..... 45@45&5%
Peace Hand Panel and Rip ..... 25@25&5%
Peace Cross Cuts ..... 45@45&5%
Richardson's Circular and Mill .. 45@45&5%
Richardson's X Cuts ..... 45@45&5%
Richardson's Hand, &c. ..... 25@25&5%
C. E. Jennings & Co. brand 25%

Hack Saws—

Griffin's, complete ..... 40&10@50
Griffin's Hack Saw Blades ..... 40&10@50
Star Hack Saws and Blades 25%
Eureka and Crescent 25%

Scroll—

Lester, complete, $10.00 ..... 25%
Rogers, complete, $4.00 ..... 25%
Barnes' Builders' and Cab Makers' $15, 25%
Barnes' Scroll Saw Blades 35%

Saw Frames—

See *Frames, Saw.*

Saw Sets—See *Sets, Saw.*

Saw Tools—See *Tools, Saw.*

Scales—

Hatch, Counter, No. 171, good quality, ₩ doz $18.00@$19.00
Hatch, Tea, No. 161 .. ₩ doz $6.50@$7.00
Union Platform, Plain ..... $2.10@2.20
Union Platform, Striped ..... $2.40@2.50
Chatillon's Grocers' Trip Scales 50%
Chatillon's Eureka 25%
Chatillon's Favorite 40%
Family, Turnbulls ..... 30@30&10
Riehle Bros.' Platform 40%

Scale Beams—See *Beams, Scale.*

Scissors, Fluting 45%

Scrapers—

Adjustable Box Scraper (S. R. & L. Co.) $6.00 ..... 30&10%
Box, 1 Handle ..... ₩ doz $2.25@$2.50
Box, 2 Handle ..... ₩ doz $3.00@$3.25
Defiance Box and Ship ..... 20&10%
Foot ..... 50&10&60%
Ship, Common ..... ₩ doz $3.50 net
Ship, R. I. Tool Co. 10%

Screen Window and Door Frames—See *Frames*

Screw Drivers—

See *Drivers, Screw*

Screws—

Bench and Hand—

Bench, Iron ..... 55&10@55&10&10%
Bench, Wood, Beech ..... ₩ doz $2.25
Bench, Wood, Hickory ..... 20&10%
Hand, Wood ..... 25&10@25&10&5%
Hand, Grand Rapids, list 35%

Coach, Lag and Hand-Rail—

Lag, Blunt Point, list Jan. 1, 1890 ..... 80@80&10%
Coach and Lag, Gimlet Point, list Jan. 1, 1890 ..... 80@80&5%
Hand Rail, Sargent's ..... 70&10%
Hand Rail, H. & B. Mfg. Co. .. 70&10@75%
Hand Rail, Am. Screw Co 75%

Jack Screws—

Jack Screws, Millers Falls list .. 50@5&10%
Jack Screws, P., S. & W. 35%
Jack Screws, Sargent 70%
Jack Screws, Stearns' ..... 40@40&10%

Cork—

Humason & Beckley Mfg. Co. .. 40&10@50%
Williamson's ..... 33⅓@33⅓&5%

Machine—

Flat Head Iron 65%
Round Head Iron 60%

Wood—

List January 1, 1891.
Flat Head Iron 70%
Round Head Iron 65%
Flat Head Brass 70%
Round Head Brass 65%
Flat Head Bronze 70%
Round Head, Bronze 65%
Extra 10 or 10 & 5% often given.
Rogers' Drive Screws 82½%

Scroll Saws—See *Saws, Scroll.*

Scythes—

Grain ..... 40@5@40&10%
Grass ..... 40&10&50%

Scythe Snaths—

See *Snaths, Scythe.*

Sets—

Awl and Tool—

Aiken's Sets, Awls and Tools, No. 20, ₩ doz $10.00 ..... 60@60&5%
Fray's Adj. Tool Hdls., Nos. 1, $12; 2, $18; 3, $12; 4, $9 ..... 45%
Millers Falls Adj. Tool Hdls., Nos. 1, $12; 2, $18 ..... 25%
Henry's Combination Haft .. ₩ doz $6.50
Stanley's Excelsior: No. 1, $7.50; No. 2, $4.00; No. 3, $5.50 ..... 30&10%
Common Brad Sets, No. 42, $10.50; No. 43, $12.50 .. 70&10&5%

Nail—

Square ..... ₩ gr. $4.00@$4.25
Round ..... ₩ gr. $3.25
Buck Bros. 27½%
Cannon's Diamond Point .. ₩ gr. $12, 20%

Rivet—

Regular list 70%

Saw—

Stillman's Genuine .... ₩ doz $5.00@7.75, 40&5%
Stillman's Pattern, Hand, ₩ doz $3.25; Cross Cut, $5.25 ..... 55%
Common Lever ..... ₩ doz $2.00, 45@50%
Morrill's No. 1, $15.00 ..... 40@20%
No. 11, $15.00 ..... 40&10@40&10&5%
Nos. 3 and 4, $18.00 ..... 40&5%
No. 5, $24.00 ..... 40&5%
Leach's .. No. 0, $8.00; No. 1, $15 .. 15@20%
Nash's ..... 20&10@20&10&10
Hammer, Hotchkiss $5.50, 10%
Hammer, Bemis & Call Co.'s new Pat., 30&5%
Bemis & Call Co.'s Lever and Spring Hammer ..... 30&5%
Bemis & Call Co.'s Plate 10%
Bemis & Call Co.'s Cross Cut 12½%
Aiken's Genuine ..... $13.00, 50&10@60%
Aiken's Imitation ..... $7.00, 55&5%
Hart's Pat. Lever 20%
Disston's Star 25%
Leopold ..... 40&10@50%
Atkin's Lever ..... ₩ doz No. 1, $6.00
Atkin's Criterion ..... ₩ doz No. 1, $6.00
Croissant (Keller), No. 1, $15.00; No. 2, $24.00 ..... 40&10%
Avery's Saw Set and Punch 50%
Kohler's Royal ..... ₩ doz $7.00
Kohler's Giant Royal ..... ₩ doz $12.00
Crescent ..... ₩ doz $3.00
Lloyd's Acme ..... ₩ doz $15, 40&10%
Taintor Positive ..... ₩ doz $18, 50%

Sharpeners, Knife—

Larkins'.
Applewood Handles .. ₩ doz. $6.00, 40%
Rosewood or Cocobola .. ₩ doz. $9.00 40%

Shaves, Spoke—

Iron 45%
Wood 30%
Bailey's (Stanley R. & L. Co.) .... 40&10%
Stearns' ..... 30&10%
Cincinnati ..... 25&10%
Goodell's ₩ doz. $9.00 ..... 25%

Shears—

American (Cast) Iron .. 75&10@75&10&5%
Barnard's Lamp Trimmers .. ₩ doz. $3.75
Seymour's, List Dec. 1891, 60&10&10@60&10&10&5%
Heinisch's, List Dec. 1881, 60&10&10@60&10&10&5
Heinisch's Tailor's Shears ..... 33⅓&5
Cast Steel Trimmers:
First quality ..... 80@80&10%
Second quality ..... 80&10@80&10&10%
Acme Cast Shears ..... 10&10%
Diamond Cast Shears 10%
Clipper ..... 10&10%
Victor Cast Shears ..... 75&10@75&10&5%
Howe Bros. & Hulbert, Solid Forged Steel 40%
Chicago Drop Forge & F. Co, Solid Steel Forged 60%
Davenport Cutlery Co. .. .60@60&10%
Clauss Shear Co., Japanned 70%
Clauss Shear Co., Nickeled, same list .. 60%
Galvanic 3½ to 9 in., ₩ doz. $1.00 ₩ inch
Electric Cutlery Co ..... Net
Campbell Cutlery Co., Jap'd 75%
Nickel Plated 65%

Pruning Shears and Hooks

Disston's Combined Pruning Hook and Saw ..... ₩ doz. $18.00, 20&10%
Disston's Pruning Hook, ₩ doz. $12.00 20&10%
E. S. Lee & Co.'s Pruning Tools .. 50&10@70%
Pruning Shears, Henry's Pat., ₩ doz. $3.75@$4.00
Henry's Pruning Shears, ₩ doz. $4.25 @$4.50
Wheeler, M. & C. Co., Combination, ₩ doz $12.00, 20%
Dunlap's Saw and Chisel, ₩ doz $8.50, 30%
J. Mallinson & Co., No. 1, $6.25; No. 2, $7.25
P., S. & W. Co. 50%

Tinners', &c.—

Shears and Snips (P. S. & W.) ..... 20@25%
Snips, J. Mallinson & Co. 33⅓%

Sheaves—

Sliding Door—

M. W. Co., list July, 1888 .. 50&10@60&5%
R. & E., list Dec. 18, 1885 ..... 55&20%
Corbin's list ..... 60&10&5%
Patent Roller ..... 60&10&5%
Patent Roller, Hatfield's 75%
Russell's Anti-Friction, list Dec. 18, 1885 ..... 60&5%
Moore's Anti-Friction 50%

Sliding Shutter—

R. & E., list Dec. 18, 1885 ..... 60&10&5%
Sargent's list 70%
Reading list ..... 60&10&10%

Shells—

First quality 4, 8, 10 and 12 gauge ..... 25&10&5%
First quality Rival, Club and Climax brands, 14, 16 and 20 gauge ($7.50 list) ..... 20&10&5%
Prize ..... 40&5%
Star, Club, Rival and Climax Brands .. 33⅓&10&5%
Smokeless brand, 12, 10, 16 gauge .. 33⅓&10&5%
Trap brand, 12 and 10 gauge .. 33⅓&10&5%
Selbold's Comb. Shot Shells ..... 15&5%
Brass Shot Shells, 1st quality ..... 60&5%
Brass Shot Shells, Club, Rival, Climax. 65&5%

Shells, Loaded—

Standard List, July 19, 1890 ..... 40&10&10@40&10&10&5%

Ship Tools—

L. & I. J. White ..... 30&5%

Shoes, Horse, Mule, &c.—

Horse—

Burden's, Perkins', Phœnix, Standard, Diamond State and Bryden's Boss, at factory $4.00
Bryden's Frog Pressure, at factory .. $5.00

Mule—

Add $1 ₩ keg to above prices.

Ox Wrought—

Ton lots ..... ₩ ℔ 9¢
1000 ℔ lots ..... ₩ ℔ 9½¢
500 ℔ lots ..... ₩ ℔ 10¢

Shot—

	Small lots.	
Drop, up to B, 25-℔ bag	$1.45	In ton lots a discount of 6¢ ₩ bag (25 ℔) is made.
Drop, up to B, 5-℔ bag	.35	
Drop, B and larger, 25-℔ bag	1.70	
Drop, B and larger, 5-℔ bag	.40	
Buck and Chilled, 25-℔ bag	1.70	
Buck and Chilled, 5-℔ bag	.40	
Dust Shot, 25-℔ bag	2.00	
Dust Shot, 5-℔ bag	.45	

Shovels and Spades—

Ames' Shovels, Spades, &c., list Nov. 1, 1885 ..... 30%
NOTE.—Jobbers frequently give 5@7½% extra on above.
Griffith's Black Iron ..... 50&10%
Griffith's C. S. ..... 60@60&10%
Griffith's Solid C. S. R. R. Goods 20%
St. Louis Shovel Co. ..... 20@20&7½%
Hussey, Binns & Co. ..... 15@25%
Hubbard & Co. ..... 20@20&7½%
Lehigh Mfg. Co. ..... 50&10%
H. M. Myers Co. 30%
Payne Pettebone & Son ..... 33⅓&5%
Remington's (Lowman's Pat.) .. 40&10&50%
Rowland's Black Iron ..... 50&10%
Rowland's Steel ..... 60&5@60&10%
Terra Haute Shovel & Tool Co. 35%

Shovels and Tongs—

Iron Head ..... 60&10@60&10&5%
Brass Head ..... 60&10&10%

Sieves—

Mann's Tin Rim ..... 50&25%
Buffalo Metallic, S. S. & Co. ..... 50&25%
Shaker (Barler's Pat.) Flour Sifters ₩ gr $18.00@$20.00
Electric ..... ₩ gr $17.00@$20.00
A. & W. Sifters ..... ₩ gr $18.00@$20.00
Hunter's ..... ₩ gr $18.00@$20.00

Sieves, Wooden Rim—

	Iron	Plated.
Mesh 18, Nested, ₩ doz. ..	$0.80	$1.00
Mesh 20, Nested, ₩ doz ..	.95	1.10
Mesh 24, Nested, ₩ doz ..	1.15	1.35

Sinks, Wrought Steel—

Columbus, Painted or Unpainted ..... 30@30&10 %
Columbus, Galvanized and Enameled. ..... 50@50&10 %
New Era, Painted ..... 40&10@50&5 %
New Era, Galvanized and Enameled .. 60&10&10@70&5 %

Skeins, Thimble—

Western list ..... 75&5@75&10%
Columbus Wrt. Steel .. Special net prices
Coldbrookdale Iron Co. 60%
Seneca Falls Pattern 60%
Utica P. S. T. Skeins 60%
Utica Turned and Fitted 35%

Slates—

School, by case ..... 50&10@50&10&10%

Sleds, Hand—

Tubular Steel ..... ₩ doz $24.00 40&5%
(Lots of 6 doz 50%)

Snaps, Harness, &c.—

Anchor (T. & S. Mfg. Co.)....65%
Fitch's (Bristol)....50&10%
Hotchkiss....10%
Andrews....50%
Sargent's Patent Guarded....70&10&10%
German, new list....40&10%
Covert....50&10&5&2%
Covert, New Patent....50&10&5&2%
Covert, New R. E....60&10&5&2%
Covered Spring....60&10&10%
Covert's Saddlery Works' Triumph 33⅓&5%
John Frotz Snaps....75@75&5%

Snaths, Scythe—

List....50@50&5%

Soldering Irons—

See *Irons, Soldering.*

Spittoons, Cuspidors, &c.

Standard Fiberware—

Cuspidors, 8½-inch, ₱ doz., No. 5, $8; No. 5X, $9.
Spittoons, Daisy, 8-inch, No. 1, 4; 10 and 11 inch, $6.

Spoke Shaves—

See *Shaves, Spoke.*

Spoke Trimmers—

See *Trimmers, Spoke.*

Spoons and Forks—

Tinned Iron—

Basting, Cen. Stamp. Co.'s list....70&10%
Solid Table and Tea, Cen. Stamp. Co.'s list....70&10%
Buffalo, S. S. & Co....33⅓&2%

Silver Plated—

months or 5% cash 30 days:
Meriden Brit. Co., Rogers....40&15%
C. Rogers & Bros....40&15%
Rogers & Bros....40&15%
Reed & Barton....40@40&5%
Wm. Rogers Mfg. Co....40, 15&5%
Simpson, Hall, Miller & Co....40, 15&5%
Holmes & Edwards Silver Co....40, 15&5%
L. Boardman & Son....50&12½%

Miscellaneous—

Holmes & Edwards Silver Co.:
No. 67 Mexican Silver....50&10&5%
No. 30 Silver Metal....50&10&5%
No. 24 German Silver....50&10&5%
No. 50 Nickel Silver....50&5%
No. 49 Nickel Silver....50&10&5%
Wm. Rogers Mfg. Co.:
Rogers' Silver Metal....50&10&5%
18% Rogers' German Silver....60&5%
22% Rogers' Nickel Silver....50&5%
German Silver....50@50&5%
German Silver, Hall & Elton..50&5% cash
Nickel Silver....50&5&50&10&5% cash
Brittannia....60@60&5%
Boardman's Nickel Silver, list July 1, 1891....60&7½&5%
Boardman's Brittannia Spoons, case lots....60&5% cash

Springs—

Door—

Torrey's Rod, 39 in....₱ doz $1.20@1.25
Gray's, ₱ gr. $20.00....25%
Bee Rod, ₱ gr., $20.00....20@25%
Warner's No. 1, ₱ doz $1.50; No. 2, $3.40....55@55&10%
Gem (Coil), list April 19, 1886....10@15%
Star (Coil), list April 19, 1886...20@20&5%
Victor (Coil)....60&10@60&10&5%
Champion (Coil)....60&10@60&10&10%
Cowell's, No. 1, ₱ doz $18.00; No. 2, $15.00....50@50&10%
Rubber, complete, ₱ doz $4.50....55&10%
Hercules....50@50&10%

Carriage, Wagon, &c.—

Elliptic, Concord, Platform and Half Scroll....60&10&10%
Cliff's Bolster Springs....25%

Squares—

Steel and Iron, Nickel-Plated....85@85&5%
Try Square and T Bevels....60&10&10%
Disston's Try Square and T Bevels....50%
Winterbottom's Try and Miter....30&10%
Starrett's Micrometer Caliper Squares....25%
Avery's Flush Bevel Squares....40%
Avery's Bevel Protractor....50%

Squeezers—

Fodder—

Blair's....₱ doz $2.00
Blair's "Climax"....₱ doz $1.25

Lemon—

Porcelain Lined, No. 1....₱ doz $6.00
....25&30%
Wood, No. 2....₱ doz $3.00, 35%
Wood, Common....₱ doz $1.70@1.75
Dunlap's Improved....₱ doz $3.75, 20%
Sammis....No. 1, $5.00; No. 2, $9; 12, $18 ₱ doz....25&10%
Jennings' Star....₱ doz $2.50
The Boss....₱ doz $2.50
Dean's..Nos. 1, ₱ doz $6.50; 2, $3.35; 3, $1.90; Queen, $2.50
Little Giant....50@50&5%
King....40&5%
Hotchkiss Straight Flash....₱ doz $12.00
Silver & Co., Glass....₱ gro. $9.00
Manny Lemon Juice Extractor:
Standard....₱ doz $0.75@$1.00
Improved....₱ doz $2.00

Standard Fiber Ware—

See *Ware, Standard Fiber.*

Staples—

Blind—

Barbed, ½ in. and larger....₱ ℔ 7@7½¢
Barbed, ¾ in....₱ ℔ 8@8½¢
Fence Staples, Galvanized, Fence Staples Plain....Same price as Brb Wire See Trd. Rep
Steelyards....40&10@50%

Stocks and Dies—

Blacksmith's:
Waterford Goods....35%
Butterfield's Goods....35%
Lightning Screw Plate....25@30%
Reece's New Screw Plates....25@30%
Reversible Ratchet....30%
Gardner....25%
Green River....25@30%

Stops, Bench—

Morrill's....₱ doz $9, 50%
Hotchkiss's....₱ doz $5, 10@10&10%
Weston's, No. 1, $10; No. 2, $9, 25&10&5%
McGill's, ₱ doz $3....10%
Cincinnati....25&10%
Terrell's Nos. 1 and 2, ₱ doz., $3; No. 3, $3.60....30%

Stone—

Stones, Grind—See *Grindstones.*

Scythe Stones—

Pike Mfg. Co., list April, 1892....33⅓%
Cleveland Stone Co., list Nov. 1892..33⅓%

Oil Stones, &c.—

Pike Mfg. Co:
Hindostan No. 1, ₱ ℔....8¢
Sand Stone....5¢
Turkey Oil Stone, 4 to 8 in....80¢
Turkey Slips....$2.00
} 40 @ 40& 10%
Washita Stone, Extra....50¢
Washita Stone, No. 1....40¢
Washita Stone, No. 2....30¢
Washita Slips, Extra....80¢
Washita Slips, No. 1....70¢
Arkansas Stone, No. 1, 3 to 5½ in., $2.80
Arkansas Stone, No. 1 5½ to 8 in., $3.50
} 33⅓@33⅓&10%
Lake Superior....₱ ℔ 13¢
Lake Superior Slips....₱ ℔ 20¢

Stove Polish—

See *Polish, Stove.*

Stretchers Carpet—

Cast Steel, Polished....₱ doz $2.2
Cast Iron, Steel Points....₱ doz 75@80¢
Socket....₱ doz $1.75
Bullard's....25@25&10%

Strops, Razor—

Genuine Emerson....60@60&5%
Imitation " ..₱ doz $2.00, 20&10&5%
Torrey's....20%
Badger's Belt and Com....₱ doz $2.00
Lamont Combination....₱ doz $4.00
Jordan's Pat. Padded, list Nov. 1, '89, 50%
Electric Cutlery Co....Net
Campbell Cutlery Co....Net

Stuffer, Sausage—

Miles' Challenge, ₱ doz $20....50@50&5%
Perry....₱ doz, No. 1, $15.00; No. 0, $21.00....50&5@50&10%
Draw Cut No. 4, each $80.00....20%
Enterprise Mfg. Co., list Jan 17, '93..25%
Silver's....40&10%

Sweepers, Carpet and Lawn—

Carpet—

Bissell No. 5....₱ doz $17.00
Bissell No. 8....₱ doz $20.00
Bissell, Grand....₱ doz $36.00
Standard....₱ doz $24.00
Domestic....₱ doz $21.00
Domestic, No. 2....₱ doz $22.00
Grand Rapids....₱ doz $24.00
Crown Jewel, No. 1, $18.00; No. 2, $19.00; No. 3, $20.00
Magic....₱ doz $15.00
Improved Parlor Queen, Nickeled....₱ doz $27.00
Japanned....₱ doz $24.00
Excelsior....₱ doz $22.00
Garland....₱ doz $18.00
Parlor Queen....₱ doz $24.00
Housewife's Delight....₱ doz $15.00
Queen....₱ doz $16.00
Queen, with band....₱ doz $18.00
King....₱ doz $30.00
Weed, Improved....₱ doz $18.00
Hub....₱ doz $16.00
Cog-Wheel....₱ doz $16.00
Ladies' Friend....₱ doz $15.00
Ladies' Friend No. 2....₱ doz $16.00
Advance....₱ doz $18.00
Our Leader....₱ doz $19.00
Triumph....₱ doz $20.00
Goshen....₱ doz $21.00
Supreme....₱ doz $22.00
Easy....₱ doz $22.00
Gilt Edge....₱ doz $24.00
Acme....₱ doz $26.00
Imperial....₱ doz $36.00
Grand Republic....₱ doz $30.00
Banner....₱ doz $22.00
The Star....₱ doz $21.00
Reliable....₱ doz $22.00
The Rapid....₱ doz $22.00
Our Own....₱ doz $27.00
Model....₱ doz $27.00

Goshen Sweeper Company, Grand Rapids, Mich., make the following rebates:
5 dozen in 6 months....₱ doz $1.00
10 dozen in 6 months....₱ doz $2.00
25 dozen in 6 months....₱ doz $3.00
Except on L.F., when 10 dozen price is $13.50, and 25 dozen $13.00.

Lawn—

Thompson Mfg. Co....30%

Tacks, Brads &c.—

List October 19, 1889. Old established straight Weights. Short Weight goods are sold at lower prices.

Carpet Tacks—
American, Blued....66⅔%
American, Tin'd and Cop'd....70%
Steel, Bright and Blued....66⅔%
Steel, Tinned and Coppered....70%
Swedes Iron, Blued....72½%
Swedes Iron, Tinned....75%
American Iron Tacks, Domestic.66⅔%
Swedes Iron Tacks—
S. S., Blued....66⅔%
S. S., Tinned....70%
Lanc., Blued....55%
Lanc., Tinned....60%
Gimp and Lace Tacks—
S. S., Blued....62½%
S. S., Tinned....66⅔%
Lanc., Blued....55%
Lanc., Tinned....60%
Basket and Trimmers' Tacks—
Lanc....52½%
S. S....60%
Hungarian Nails....60%
Common and Patent Brads....55%
Leathered Tacks....10%
Brush Tacks, S. S....60%
Looking Glass Tacks, S. S....35%
Picture-Frame Points, S. S....35%
Finishing Nails....60%
Trunk and Clout Nails—
Black....62½%
Tinned or Coppered....66⅔%
Basket Nails....60%
Chair Nails....52½%
Cigar Box Nails....45%
Tin Capped Nails....50%

Extra discount 25&2%

Miscellaneous—

Double Point....90@90&10%
Wire Carpet Nails....50&10%
Plymouth Rock Steel Carpet Tacks...25%
Upholsterers' Nails....40%

Wire Brads and Nails—

Steel-Wire Brads, R. & E. Mfg. Co.'s list 50&10%

See also *Nails, Wire.*

Tapes, Measuring—

American....40@40&5%
Spring....40%
Chesterman's, Regular list....25@30%

Thermometers—

Tin Case....80@80&10%

Thimble Skeins—See *Skeins.*

Ties, Bale—Steel.

Standard Wire, list....50&10&5%

Tinners' Shears, &c —

See *Shears, Tinners' &c.*

Tinware—

Stamped, Japanned and Pieced, list Jan 20, 1887....70&10@70&25%

Tire Benders, Upsetters, &c.—See *Benders and Upsetters, Tire.*

Tobacco Cutters—

See *Cutters, Tobacco.*

Tools—

Coopers'—

Bradley's....20%
Barton's....20@20&5%
L. & I. J. White....20&5%
Albertson Mfg. Co....25%
Beatty's....30%
Sandusky Tool Co....30@30&5%
Shaves Cincinnati Tool Co....20%

Lumber—

Ring Peavies, "Blue Line"..₱ doz $20.00
Ring Peavies, Common....₱ doz $18.00
Steel Socket Peavies....₱ doz $21.00
Mall, Iron Socket Peavies...₱ doz $19.00
Cant Hooks, "blue Line"....₱ doz $16.00
Cant Hooks, Common Finish..₱ doz $14.00
Cant Hooks, Mall. Socket Clasp, "Blue Line" Finish....$16.00
Cant Hooks, Mall. Socket Clasp, Common Finish....₱ doz $14.50
Cant Hooks, Clip Clasp, "Blue Line" Finish....₱ doz $14.00
Cant Hooks, Clip Clasp, Common Finish....₱ doz $12.00
Hand Spikes....₱ doz 6 ft., $15.00; 8 ft., $20.00
Pike Poles, Pike & Hook, ₱ doz, 12 ft., $11.50; 14 ft., $12.50; 16 ft., $14.50; 18 ft., $17.50; 20 ft., $21.50.
Pike Poles, Pike only, ₱ doz, 12 ft., $10.00; 14 ft., $11.00; 16 ft., $13.00; 18 ft., $16.00; 20 ft., $20.00.
Pike Poles, not ironed, ₱ doz, 12 ft., $6.00; 14 ft., $7.00; 16 ft., $9.00; 18 ft., $12.00; 20 ft., $16.00.
Setting Poles, ₱ doz, 12 ft., $14.00; 14 ft., $15.00; 16 ft., $17.00.
Swamp Hooks....₱ doz $18.00

Saw—

Atkins', new list....40%

Transom Lifters—

See *Lifters, Transom.*

Traps—

Game—

Newhouse....40@40&5%
Oneida Pattern....70&10%
Game, Blake's Patent....40&10&5%

Mouse and Rat—

Mouse Wood, Choker, ₱ doz holes, 9@10¢
Mouse, Round Wire....₱ doz $1.50 10%
Mouse, Cage, Wire....₱ doz $2.50 10%
Mouse, Catch-'em-alive..₱ doz $2.50 15%
Mouse, Bonanza....₱ doz 0.90@$1.00
Rat, Decoy....₱ gr $10.00, 10%
Ideal....₱ gr $10.00
Cyclone....₱ gr $5.25
Hotchkiss Metallic Mouse, 5-hole traps, ₱ doz., 75¢; in full cases, ₱ doz.60@65¢
Hotchkiss Imp. Rat Killer...₱ gro $18.50
Hotchkiss New Rat Killer...₱ gro $16.50
Schuyler's Rat Killer....₱ gro $15.00
Dandy....₱ doz., $1.75

Triers—

Butter and Cheese....25%

Trimmers, Spoke—

Bonney's....₱ doz $10.00, 50%
Stearns'....20&10%
Ives', No. 1, $15.00; No. 2, $12.00 ₱ doz. 55&10%
Douglas'....₱ doz $9.00, 20%
Cincinnati....25%

Trowels—

Lothrop's Brick and Plastering, 20&10&5@35%
Reed's Brick and Plastering....15%
Disston's Br'k and Plastering.25@25&10%
Peace's Plastering....25@25&5%
Clement & Maynard's....20@20&5%
Rose's Brick....15@20%
Brade's Brick....25%
Worrall's Brick and Plastering....20%
Garden....70%
Cleves' Angle Trowel, ₱ gro, No. 1, $36; No. 2, $30; No. 3, $15. net @ 10%

Trucks, Warehouse, &c.—

B. & L. Block Co.'s list....40%
Thompson Mfg. Co....25%

Tubes, Boiler—

See Pipe.

Twine—

Flax Twine—

	BC.	B.
No. 9, ¼ and ⅛ ℔ Balls	25¢	31¢
No. 12, ¼ and ⅛ ℔ Balls	22¢	30¢
No. 18, ¼ and ⅛ ℔ Balls	20¢	29¢
No. 24, ¼ and ⅛ ℔ Balls	20¢	29¢
No. 36, ¼ and ⅛ ℔ Balls	18¢	26¢

No. 264 Mattrass, ¼ and ⅛ ℔ Balls,53@54¢
Chalk Line, Cotton, ½ ℔ Balls....25¢
Mason Line, Linen, ½ ℔ Balls....55¢
2-Ply Hemp, ¼ and ⅛ ℔ Balls (Spring Twine)....15¢
3-Ply Hemp, 1 ℔ Balls....16¢@16½¢
3-Ply Hemp, 1½ ℔ Balls....15¢@15½¢
Cotton Wrapping, 5 Balls to ℔..15¢@16¢
2, 3, 4 and 5 Ply Jute, ½ ℔ Balls....10¢
Wool....6½¢@6¾¢
Paper....13¢@14¢
Cotton Mops, 6, 9, 12 and 15 ₱ to doz..18¢

Vises—

Solid Box....50&10@50&10&5%

Parallel—

Fisher & Norris Double Screw....15&10%
Stephens'....25@30%
Parker's....20@25%
Wilson's....55%
Howard's....40%
Bonney's....50%
Millers' Falls....40@40&10%
Trenton....40&5@40&10%
Merrill's....15@20%
Sargent's....70&10%
Backus and Union....40%
Double Screw Leg....15&10%
Prentiss....20@25%
Simpson's Adjustable....40%
Moore's....20%
Massey Quick Action....20@25%

Saw Filers—

Bonney's, Nos. 2 & 3, $15.00....40&10%
Stearn's....33⅓&10@33⅓&10&10%
Stearn's Silent Saw Vises....33⅓@36%
Hopkins'....₱ doz $17.50, 10%
Reading....40&10%
Wentworth....20&10%

Miscellaneous—

Combination Hand Vises....₱ gr. $42.00
Cowell Hand Vises....20%
Bauer's Pipe Vises....10%
Cincinnati....25&10%
Enterprise Pipe Vises, each....$3.00
Massey Combination Pipe....40%

Wads—Price Per M.

U.M.C.&W.R.A.—B. E., 11 up.. 68¢
U.M.C.&W.R.A.—B. E., 9&10.. 82¢
U.M.C.&W.R.A.—B. E., 8....96¢
U.M.C.&W.R.A.—B. E., 7....$1.10
U.M.C.&W.R.A.—P. E., 11 up. 1.15
U.M.C.&W.R.A.—P. E., 9&10.. 1.50
U.M.C.&W.R.A.—P. E., 8....1.70
U.M.C.&W.R.A—P. E., 7....1.80
} Dis. 20&2½%
Eley's B. E., 11 and larger....$1.70@$1.72
Eley s P. E., 12 to 20....3.00@ 3.25

Wagon Boxes—

See *Boxes, Wagon.*

Wagon Jacks—

See *Jacks, Wagon.*

Ware, Hollow—

Cast Iron, Hollow—

Stove Hollow-Ware—
Ground....60&1 @60&10&10%
Unground....65&10@7 &5%
White Enameled Ware—
Maslin Kettles....75@75&5%
Boilers and Saucepans....60@60&5%
Tinned Boilers and S'pans....60@60&5%
Rustless Hollow Ware....50@50&5%
Gray Enameled Ware—
Stove....50%
Maslin Kettles....60@60&10%
Boilers and Saucepans....40@5%

Enameled—

Agate and Granite Ware, list Jan. 1, 1889....33⅓&10
Ironclad Enameled Ware....dis 33⅓&10

Kettles—

Galvanized Tea-Kettles—

Inch.....	6	7	8	9
Each....	55¢	60¢	65¢	75¢

Standard Fiber—

	Per Doz. Plain.	Decorated.
Wash-Basins, 10½ in.	$2.00	2.25
Wash-Basins, 12 in.	2.25	2.5[illegible]
Keelers, 11¼ in.		4.00
Cuspidors		3.00
Spittoons, "Daisy," 8 in.	4.00	4.50
Peck Measure	4.00	
Half-peck Measure	3.50	

See also Pails.

Indurated Fiber.—

Spittoons No. 2, ₱ doz....$6.00
Basins, Ringed, ₱ doz., No. 2....2.50
Washtubs, Nested, Nos. 0, 1, 2 and 3 (4 pieces), ₱ nest....$5.75
Keelers Nested, Nos. 1, 2, 3 and 4 (4 pieces), ₱ nest....$2.55
Butter Bowls 15, 17 and 19-inch (3 pieces), ₱ nest....$1.50
Liquid Measures, pt., qt., 2 qt. and funnell (4 pieces), ₱ set....$1.20
} 25%
See also Pails.

Silver Plated, Hollow—

4 mo. or 5% cash in 30 days.
Reed & Barton....
Meriden Britannia Co....
Simpson, Hall, Miller & Co....
Rogers & Brother....
} 40&10%
Hartford Silver Plate Co....
William Rogers Mfg. Co....
} 40&5&5%

Washers—

Size hole....5-16 ⅜ ½ ⅝ to 1⅛
Washers....5½ 4½ 3½ 2¾
In lots less than 200 ℔, ₱ ℔, add ½¢, 5-lb boxes 1¢ to list.

Washer Cutters—

See *Cutters, Washers.*

Wedges—

Iron....₱ ℔ 3½¢
Steel....₱ ℔ 3½¢

Weights, Sash—

Solid Eyes....₱ ton $18.00@$19.00

Well Buckets Galvanized—See *Buckets, Well, Galvanized.*

Wheels, Well—

8 in., $2.00; 10 in. $2.50 12 in. $2.75

Whips

	Length.	4½	5	5½	6	6½	7	7½	8 ft.
American Whip Co.:									
I. X. L. Whalebone Driving		$18.00	20.00	22.00	24.00	27.00	30.00	33.00	36.00
Eureka, Two-thirds Whalebone		....	....	15.00	16.50	18.00	20.00	....	....
Bull Bone, Half-length Whalebone		....	....	11.00	12.00	13.00	15.00	....	....
American Standard		8.00	8.50	9.50	10.50	12.00	13.50	15.00	16.50
True Grip, Raw Hide Center		6.00	6.00	6.50	7.00	7.50	9.00	....	....
New Name, Stocked Java, Black and Wine Colors		....	....	....	6.00	..	....	....	....
Americus, 93 Pen Whip		....	....	....	6.00	....	....	....	....
Gents' Light Driving No. 111		....	....	....	6.00	....	....	....	....
Gents' Light Driving No. 106		....	....	....	5.00	....	....	....	....
Hand-made Stocked Java No. 103		....	....	3.75	4.00	....	....	....	....

Per dozen.

A large variety of cheaper grades.....50c@$3.00
Team Whips.....$2.00@$7.50
Toy Whips.....₩ gro. $2.50@$12.00
Hardware Assortment, 10/American, 75 Whips for $50.00.

Wire and Wire Goods—

Iron—

Market,
Br. & Ann., Nos. 0 to 18. 75&10@75&10&5%
Cop'd, Nos. 0 to 18. 75&5%
Galv., Nos. 0 to 18. 70&5@70&10%
Tin'd, Tin'd list, Nos. 0 to 18. .70@70&10%
} Extra 10% often given.

Stone,
Br. and Ann'd, Nos. 16 to 18. .80%
Bright and Ann'd, Nos. 19 to 26. .80&5%
Br. and Ann'd, Nos. 27 to 36. .82½&5%
Tinned. .65&10%
} Extra 10% often given.

Tinned Broom Wire, 18 to 21, ₩ ℔....43½@
Galvanized Fence .....75&10%
Brass, list Jan. 18, 1884.....40%
Copper, list Jan. 18, 1884.....40@5%
Annealed Wire on Spools.....60%

Malin's An'aled & Tin'd on Spools. .60&5%
Malin's Brass and Cop. on Spools. .50&5%
Tate's Spooled, Tin'd & Annealed. .60&5%
Tate's Spooled Cop. and Brass 50%
Cast Steel Wire 50%
Stubs' Steel Wire .....$6.00 to £, 30%
Steel Music Wire, 12 to 30, imported.....60@70¢ ₩ ℔

Wire Clothes Line, see Lines.
Wire Picture Cord, see Cord.

Bright Wire Goods—

Standard list. .80&20@85%

Wire Cloth and Netting—

Painted Screen Cloth, good quality, ₩ 100 sq. ft., $1.40
Galvanized Wire Netting.....75@75&10%

Wire, Barb—

See Trade Report.

Wire Rope—*See Rope, Wire.*

Wrenches—

American Adjustable 40%
Baxter's Adjustable "S". .40&10@50%
Baxter's Diagonal. .60%
Coes' Genuine. .50&3%
Coes' "Mechanics'". .50&10&3%
Girard Standard. .65&10@70%
Lamson & Sessions' Engineers'. .60&10%
Lamson & Sessions' Standard. .70&10%
P. S. & W. Agricultural.....
Girard Agricultural.....
Lamson & Sessions' Agric'l..
} 75&10@80%

Bemis & Call's:
Pat. Combination. .40%
Merrick's Pattern. .35%
Brigg's Pattern. .25%
Cylinder or Gas Pipe. .40&5%
No. 3 Pipe. .50%
Aiken's Pocket (Bright). .$5.00, 50&10%
The Favorite Pocket. .₩ doz., $4.00, 40%
Webster's Pat. Combination. .25%
Boardman's. .30%
Always Ready. .25&5%
Alligator. .50%
Donohue's Engineer. .20&10%
Acme, Bright. .50&2%
Acme, Nickeled. .40&2%
Hercules. .70@70&5%
Walker's. .55&2%
Diamond Steel. .55&2%
Cincinnati Brace Wrenches. .25&10%
Tafts' Vise Wrench. .55&10&2%

Wringers, Clothes—

Am. Wringer Co.'s list, Jan. 2, '93. .2% cash
Colby WringerCo., list Sept. 1, '91. .2% cash
Lovell Mfg. Co., list Jan. 1, 1892. .2% cash
Peerless Mfg. Co., list Feb., 1892. .2% cash
National Wringer & Mfg. Co., list June 1, 1892. .2% cash

Wrought Goods—

Staples, Hooks, &c., list March 17, 1892 .85&10@85&15%

Paints, Oils and Colors.—Wholesale Prices.

Animal and Vegetable Oils—

Linseed, City, raw.. per gal.	..	@	48
Linseed, City, boiled	..	@	51
Linseed, Western, raw	..	@	48
Lard, City, Extra Winter	1.00	@	..
Lard, City, Prime	..	@	1.00
Lard, City, Extra No. 1	75	@	80
Lard, City, No. 1	60	@	65
Lard, Western, prime	95	@	98
Cotton-seed, Crude, prime	56	@	57
Cotton-seed, Crude, off grades	52	@	54
Cotton-seed, Summer Yellow, prime	60	@	62
Cotton-seed, Summer Yellow, off grades	55	@	58
Sperm, Crude	..	@	90
Sperm, Natural Spring	..	@	..
Sperm, Bleached Spring	..	@	..
Sperm, Natural Winter	90	@	93
Sperm, Bleached Winter	93	@	95
Whale, Crude	40	@	43
Whale, Natural Winter	50	@	52
Whale, Bleached Winter	52	@	54
Whale, Extra Bleached	55	@	57
Sea Elephant, Bleached Winter	..	@	..
Menhaden, Crude, Sound	40	@	..
Menhaden, Crude, Southern	..	@	..
Menhaden, Light Pressed	40	@	42
Menhaden, Bleached W'ter	43	@	45
Menhaden, Extra Bleached	46	@	48
Tallow, City, prime	65	@	70
Tallow, Western, prime	65	@	..
Cocoanut, Ceylon	6¼	@	6¼
Cocoanut, Cochin	7	@	7¼
Cod, Domestic	38	@	40
Cod, Foreign	40	@	45
Red Elaine	40	@	45
Red Saponified. ₩ ℔	6	@	6¼
Bank. per gal	39	@	40
Straits	40	@	41
Olive, Italian, bbls	65	@	70
Neatsfoot, prime	70	@	80
Palm, prime, Lagos. ₩ ℔	6	@	6¼

Mineral Oils—

Black, 29 gravity, 25 @ 30 cold test. per gal	7	@	7¼
Black, 29 gravity, 15 cold test.	7½	@	8
Black, 29 gravity, summer	6	@	6½
Cylinder, light, filtered	14	@	16
Cylinder, dark, filtered	10	@	13
Paraffine, 23¾@24 gravity	11	@	12
Paraffine, 25 gravity	10	@	11
Paraffine, 28 gravity	7½	@	8
Paraffine, red	1½	@	10½

Paints and Colors—

Barytes, Foreign, ℔ ton	$22.00	@	24.00
Barytes, Amer. floated	29.00	@	32.00
Barytes, Amer. No. 1	16.00	@	18.00
Barytes, Amer. No. 2	13.00	@	15.00
Barytes, Amer. No. 3	11.00	@	12.00
Blue, Celestial. ₩ ℔	6	@	8
Blue, Chinese	40	@	50
Blue, Prussian	25	@	40
Blue, Ultramarine	8	@	25
Brown, Spanish	½	@	1
Brown, Vandyke, Amer	3	@	3½
Brown, Vandyke, English	6	@	8
Carmine, No. 40, in bulk	3.10	@	..
Carmine, No. 40, in boxes or barrels	3.20	@	..
Carmine, No. 40, in ounce bottles	4.20	@	..
Chalk, in bulk. ₩ ton	....	@	1.75
Chalk, in bbls. ₩ 100 ℔	35	@	40
China Clay, English. ₩ ton	13.00	@	18.00
Cobalt Oxide, prep'd	9.00	@	11.00
Cobalt Oxide, black. lots 100 ℔	1.90	@	....
Cobalt Oxide, black. less 100 ℔	1.96	@	....
Green, Paris, in bulk	10	@	10½
Green, Paris, 170 @ 175 ℔ kegs	10½	@	11
Green, Paris, small pack	12	@	17
Green, Chrome, ordinary	6	@	12
Green, Chrom'e, pure	22	@	25
Lead, Eng., B.B. white	8½	@	10
Lead, Amn. White, dry or in oil:			
Kegs, lots less than 500 ℔	7	@	7½
Kegs, lots 500 ℔ to 5 tons	6¼	@	6¾
Kegs, lots 5 tons to 12 tons	6¾	@	6¾
Kegs, lots 12 tons and over	6¼	@	6½
Lead, White, in oil, 25 ℔ tin pails, add to keg price	..	@	⅛
Lead, White, in oil. 12½ ℔ tin pails, add to keg price	..	@	1
Lead, White, in oil, 1 to 5 ℔ assorted tins, add to keg price.	..	@	2¼
Lead, Red, bbls. and ½ bbls	6	@	7
Lead, Red, kegs	6¼	@	7½
Litharge, kegs	6¼	@	7¼
Litharge, bbls. and ½ bbls	6	@	7

Terms, &c.—Lead and Litharge.—On lots of 500 ℔ or over, 60 days' time or 2½ % discount for cash if paid within 15 days of date of invoice.

Ocher, Rochelle	1.35	@	1¼
Ocher, French Washed	1¼	@	2½
Ocher, German Washed	1¼	@	3
Ocher, American	½	@	1¼
Orange Mineral, English	8½	@	9
Orange Mineral, French	10	@	10½
Orange Mineral, German	8½	@	9
Orange Mineral, American	8¼	@	8¾
Paris White, English Cliffstone	1.00	@	1.15
Paris White, American	65	@	75
Red, Indian, English	5½	@	7
Red, Indian, American	2	@	6¼
Red, Turkey	9	@	14
Red, Tuscan	9	@	11
Red, Venetian, American ₩ 100 ℔	1.00	@	1.10
Red, Venetian, English	1.20	@	1.35
Sienna, Italian, Burnt and Powd. ₩ ℔	4	@	5
Sienna, Ital., Burnt Lumps	1½	@	3½
Sienna, Ital., Raw, Powd	4½	@	5½
Sienna, Ital., Raw, Lumps	1¾	@	3¼
Sienna, American, Raw	1½	@	1¾
Sienna, American, Burnt and Powdered. ₩ ℔	1¾	@	1¾
Talc, French	..	@	1½
Talc, American	1¼	@	1½
Terra Alba, Fr'ch. ₩ 100 ℔	95	@	1.25
Terra Alba, English	70	@	80
Terra Alba, American No. 1	65	@	75
Terra Alba, American No. 2	45	@	50
Umber, Turkey, Burnt and Powdered. ₩ ℔	3½	@	4
Umber, Turkey Bnt. Ln	2¾	@	3
Umber, Turkey, Raw and Powdered	3½	@	....
Umber, Turkey, R'w Lumps	2½	@	2¾
Umber, Turkey, Bnt. Amer	1¼	@	1½
Umber, Turkey, R'w Amer	1¼	@	1½
Yellow, Chrome	10	@	25
Vermilion, American Lead	11½	@	12
Vermilion, Quicks'er, bulk	57	@	..
Vermilion, Quicks'er, bags	58	@	..
Vermilion, Quicksilver sm'r pkgs	62	@	..
Vermilion, English Import	85	@	90
Vermilion, Imitation, Eng	8	@	35
Vermilion, Trieste	90	@	92½
Vermilion, Chinese	92½	@	95
Whiting Common, ₩ 100 ℔	37½	@	42½
Whiting Gilders'	45	@	55

Zinc, American, dry. ₩ ℔	4½	@	5
Zinc, French, Red Seal	7½	@	..
Zinc, French, Green Seal	9	@	..
Zinc, French, V. M. X.	..	@	7
Zinc, Antwerp, Red Seal	7½	@	..
Zinc, Antwerp, Green Seal	7½	@	..
Zinc, German, L. Z. O	6½	@	7¼
Zinc, V. M. in Poppy Oil, Red Seal. lots of 1 ton and over	10½	@	11½
lots less than one ton	11	@	11½
Zinc, V. M. in Poppy Oil, Red Seal. lots of 1 ton and over	10	@	10½
lots of less than 1 ton	10½	@	10¾

Discounts.—French Zinc.—Discounts to buyers of 10 bbl. lots of one or assorted grades, 1%; 25 bbls., 2%; 50 bbls. 4%. No discount allowed on less than bbl. lots.

Colors in Oil—

Black, Drop, Frankfort	25	@	30
Black, Drop, English	12	@	15
Black, Drop, Domestic	7	@	10
Black, Lampblack, Best	20	@	35
Black, Lampblack, Common	7	@	12
Black, Ivory	8	@	15
Blue, Chinese	35	@	40
Blue, Prussian	20	@	45
Blue, Ultramarine	12	@	18
Brown, Vandyke	7	@	12
Green, Chrome	8	@	13
Green, Paris	16	@	18½
Sienna, Raw	7	@	14
Sienna, Burnt	7	@	14
Umber, Raw	7	@	10
Umber, Burnt	7	@	10

Putty—

In barrels and ½ bbls	.01½	@	.01¾
In tubs	.01¾	@	.01¾
In tin cans	.01¾	@	.02¼
In bladders	.01¾	@	.02¼

Spirits Turpentine—

In regular bbls	33½	@	34
In machine bbls	34	@	34½

Glue—

Low Grade. ₩ ℔	8	@	10
Cabinet	12	@	14
Medium White	13	@	15
Extra White	17	@	20
French	10	@	22
English	10	@	15
Irish	12	@	..

CURRENT METAL PRICES.

FEBRUARY 8, 1893.

The following quotations are for small lots. Wholesale prices, at which large lots only can be bought, are given elsewhere in our weekly market report.

IRON AND STEEL—

Bar Iron from Store—

Common Iron:	
⅝ to 2 in. round and square.. 1 to 6 in. x ⅜ to 1 in...	₩ lb 1.90 @ 2.00¢
Refined Iron:	
⅝ to 2 in. round and square. 1 to 4 in. x ⅜ to 1½ in.... 4½ to 6 in. x ⅜ to 1 in.	₩ lb 2.00 @ 2.10¢
1 to 6 in. x ¼ and 5-16	₩ lb 2.20 @ 2.30¢
Rods—⅜ and 11-16 round and sq.	₩ lb 2.10 @ 2.20¢
Bands—1 to 6 x 3-16 to No. 12	₩ lb 2.30 @ 2.40¢
"Burden Best" Iron, base price.	₩ lb ....3.00¢
Burden's "H. B. & S." Iron, base price	₩ lb .....2.80¢
"Ulster"	₩ lb .....3.00¢
Norway Bars	3.75 @ 4.00¢
Norway Shapes	4.50 @ 5.00¢

Merchant Steel from Store—

	Per lb
Open-Hearth and Bessemer Machinery, Toe Calk, Tire and Sleigh Shoe, base price in small lots	2¾¢
Best Cast Steel, base price in small lots.	8 ¢
Best Cast Steel Machinery, base price in small lots	5 ¢

Sheet Iron from Store—

	Black—Common American.	Black—R. G. Cleaned American.
Nos. 10 to 16	₩ lb 2¾ @	3½¢
17 to 20	₩ lb 3 @ ...	3½¢
21 to 24	₩ lb 3¼ @	3½¢
25 and 26	₩ lb 3½ @ ...	3¾¢
27	₩ lb 3¼ @	3¾¢
28	₩ lb 3⅝ @	4 ¢
American B. B.	₩ lb 4¢ @ 4¼¢	

Russia, Planished, &c.

Genuine Russia, according to assortment	₩ lb 12¢ @ 13¢
Patent Planished	₩ lb A, 10¢; B, 9¢, 5%
Craig Polished Sheet Steel	₩ lb, 8½¢

Galvanized.

	B. B.
Nos. 16 to 16	₩ lb 4.20¢
17 to 22	₩ lb 4½¢
23 to 24	₩ lb 4¾¢
25 to 26	₩ lb 5 ¢
27	₩ lb 5¼¢
28	₩ lb 5½¢
29 to 30	₩ lb 6¼¢

English Steel from Store—

Best Cast	₩ lb 15 ¢
Extra Cast	₩ lb 16½ @ 17 ¢
Swaged, Cast	₩ lb 16 ¢
Best Double Shear	₩ lb 15 ¢
Blister, 1st quality	₩ lb 12 ¢
German Steel, Best	₩ lb 10 ¢
2d quality	₩ lb 9 ¢
3d quality	₩ lb 8 ¢
Sheet Cast Steel, 1st quality	₩ lb 15 ¢
2d quality	₩ lb 14 ¢
3d quality	₩ lb 12½¢
R. Mushet's "Special"	₩ lb 48 ¢
" " Annealed	₩ lb 75 ¢
" " "Titanic"	₩ lb 20 ¢

METALS—

Tin—

	Per lb
Banca, Pigs	22 ¢
Straits, Pigs	21½¢
Straits in Bars	23 ¢

Tin Plates—

Duty: 2.2¢ ₩ lb.

Charcoal Plates—Bright—

Guaranteed Plates command special prices, according to quality. Per box.

Melyn and Calland Grade.	IC, 10 x14..	@	$6.50
" " "	IC, 12 x12..	@	6.75
" " "	IC, 14 x20..	@	6.50
" " "	IC, 20 x28..	@	13.00
" " "	IX, 10 x14..	@	8.50
" " "	IX, 12 x12..	@	8.75
" " "	IX, 14 x20..	@	8.50
" " "	IX, 20 x28..	@	17.00
" " "	DC, 12½x17..	@	6.00
" " "	DX 12½x17..	@	8.00
Allaway Grade	IC, 10 x14..	@	6.00
" "	IC, 12 x12..	@	6.25
" "	IC, 14 x20..	@	6.00
" "	IC, 20 x28..	@	12.00
" "	IX, 10 x14..	@	7.50
" "	IX, 12 x12..	@	7.75
" "	IX, 14 x20..	@	7.50
" "	IX, 20 x28..	@	15.00
" "	DC, 12½x17..	@	5.50
" "	DX, 12½x17..	@	7.00

Coke Plates—Bright—

Steel Coke.—IC,	10 x 14, 14 x 20.. $5.50	@	$5.60
	10 x 20.. ...	@	8.50
	20 x 28.. 11.50	@	12.00
	IX, 10 x 14, 14 x 20..	@	7.00
BV Grade.—IC,	10 x 14, 14 x 20..	@	5.60

Charcoal Plates—Terne—

Guaranteed Plates command special prices according to quality.

Dean Grade.—IC,	14 x 20	@	$5.75
	20 x 28 11.00	@	11.25
	IX, 14 x 20	@	6.50
	20 x 28	@	13.00
Abecarne Grade.—IC,	14 x 20	@	5.65
	20 x 28	@	11.00
	IX 14 x 20	@	6 50
	20 x 28	@	13.00

Tin Boiler Plates—

IXA,	4x 26 112 sheets	@	$13.35
IXX,	14 x 28 112 sheets	@	14.50
IXX,	14 x 31 112 sheets	@	16.00

American Terne Plates.—Apollo.

IC, 14 x 20	$6.25
IC, 20 x 28	12.50
IX, 14 x 20	7.25
IX, 20 x 28	14.50

Copper—

Duty: Pig, Bar and Ingot, 1½¢; Old Copper, 1¢ ₩ lb. Manufactured (including all articles of which Copper is a component of chief value), 35 % ad valorem.

Ingot—

Lake	@ 13 ¢
Ansonia grade Arizona	@ 12¾¢
Ansonia grade Casting	@ 12 ¢

Sheet and Bolt—

Prices adopted by the Association of Copper Manufacturers of the United States, May 19, 1892. Subject to a discount of 15 % @ 25 %, according to size of order.

Not wider than	Not longer than	And longer than	Weights per sq. foot and prices per pound. Over 64 oz.	32 to 64 oz.	16 to 32 oz.	14 to 16 oz.	12 to 14 oz.	10 to 12 oz.	8 to 10 oz.	Less than 8 oz.
30	72		22	22	22	23	24	25	28	30
30		72	22	22	22	23	25	27	31	....
36	96		22	22	22	24	26	30	33	....
36		96	22	22	23	25	27	31	35	...
48	96		22	22	24	26	28	32	....	....
48		96	22	22	25	27	29	33	....	....
60	96		22	22	27	29	34	....	....	....
60		96	22	23	28	....	....	....	....	....
84	96		23	24	....	....	....	....	....	....
84		96	24	25	....	....	....	....	....	....
Ov'r 84 in. wide			25	27	....	....	....	....	....	....

Bolt Copper, ⅝ inch diameter and over, per pound 22¢

Circles, Segments and Pattern Sheets, 60 in. diameter and less, 3¢ ₩ lb advance over prices of Sheet Copper required to cut them from.

Circles, Segments and Pattern Sheets, over 60 in. diameter, up to 96 in. diameter inclusive, 4¢ ₩ lb advance over prices of Sheet Copper required to cut them from.

Circles, Segments and Pattern Sheets, over 96 in. diameter, 5¢ ₩ lb advance over prices of Sheet Copper required to cut them from.

Cold or Hard Rolled Copper 14 oz. ₩ square foot and heavier, 1¢ ₩ lb over the foregoing prices.

Cold or Hard Rolled Copper lighter than 14 oz. ₩ square foot, 2¢ ₩ lb over the foregoing prices.

All Polished Copper over 20 in. wide, 2¢ ₩ lb advance over the foregoing prices.

Copper Bottoms, Pits and Flats—

	Per lb.
14 ounce to square foot and heavier	26¢
12 ounce and up to 14 ounce to square foot	27¢
10 ounce and up to 12 ounce	29¢
Lighter than 10 ounce	32¢

Circles less than 8 inches diameter, 2¢ ₩ lb additional.

Circles over 13 inches diameter are not classed as Copper Bottoms.

10 % @ 20 % discount, according to size of order.

Copper Wash Bowl Bottoms—

Tinned ₩ lb 34¢, 10% @ 20%

Tinning—

Net.

Tinning sheets on one side, 10, 12 and 14 x 48 each	8¢
Tinning sheets on one side, 30 x 60 each	30¢
For tinning boiler sizes, 9 in. (sheets 14 in. x 60 in.), each	15¢
For tinning boiler sizes, 8 in. (sheets 14 in. x 56 in.), each	12¢
For tinning boiler sizes, 7 in. (sheets 14 in. x 52 in.), each	12¢
Tinning sheets on one side, other sizes, per square foot	2½¢
For tinning both sides double the above prices.	

Planished Brass and Copper—

Not larger than 30 x 60.

16 oz. and heavier	24¢ ₩ lb
14 oz.	25¢ ₩ lb
12 oz.	27¢ ₩ lb

Seamless Brass Tubes—

July 6, 1892. Net.

O. G.	N. G.	⅜	½	⅝	¾	⅞	1	1¼
6-14	6-12	32	28	25	24	23	22	19
15	13	33	28	26	25	24	23	20
16	14	34	29	27	26	25	24	20
17	15	35	30	28	27	26	25	21
18	16	37	31	29	27	26	25	22
19	17	38	32	30	29	28	27	24
20	18-19	39	34	32	31	30	29	26
21	20	41	36	34	33	32	31	29
22	21	43	37	35	34	33	32	31
23	22	45	39	37	36	35	34	34
24	23	48	41	39	38	36	35	36
25	24	51	44	41	40	39	38	40

Copper, Bronze and Gilding Tube, 3¢ ₩ lb additional

Brazed Brass Tubing. (To No. 20 inclusive.)

Above 5-16 inch to 3 inch, inclusive	35¢
Plain, above 3 inch	45¢
Plain, 5-16 inch	45¢
Plain, ¼ inch	60¢
Plain, 3-16 inch	$1.00
Plain, ⅛ inch	$1.50
Fancy Tubing, Brass, to No. 20, inclusive	43¢ ₩ lb
Bronze Tubing, 3¢ ₩ lb more than Brass.	
Discount from list	30 @ ..%

Roll and Sheet Brass—

(Brown & Sharpe Standard Gauge.)

Common High Brass: Wider than and including	In. 2 10	In. 10 12	In. 12 14	In. 14 16	In. 16 18	In. 18 20	In. 20 22	In. 22 24
To No. 20, inclusive	.21	.22	.23	.25	.27	.29	.31	.33
Nos. 21, 22, 23 and 24	.22	.23	.24	.26	.28	.30	.32	.34
Nos. 25 and 26	.22½	.23½	.24½	.27	.29	.31	.33	.35
Nos. 27 and 28	.23	.24	.25	.28	.30	.32	.34	.36

Common High Brass: Wider than and including	In. 24 26	In. 26 28	In. 28 30	In. 30 32	In. 32 34	In. 34 36	In. 36 38	In. 38 40
To No. 20, inclusive	.36	.39	.42	.46	.50	.55	.60	.65
Nos. 21, 22, 23 and 24	.37	.40	.43	.47	.51	.56	.61	.66
Nos. 25 and 26	.38	.41	.44	.48	.52	.57	.63	.71
Nos. 27 and 28	.39	.42	.45	.49	.53	.58	.65	.75

Discount from List 10 % to 25 %.

Brass and Copper Wire—

List January 17, 1884.

Numbered by Stubs' gauge.	Soft & hard high brass.	Spring high brass.	Low brass.	Copper.
All Nos. to No. 16, inclusive	$0.22	$0.24	$0.26	$0.30
No. 17 and No. 18	.23	.25	.27	.31
No. 19 and No. 20	.24	.26	.28	.32
No. 21, or 0.032 diameter	.25	.27	.29	.33

Discount 15 % to 25 %.

Fine Numbers.

Numbered by London gauge.	Brass.	Spring high brass.	Low brass.	Copper.
No. 22	$0.26	$0.28	$0.30	$0.34
No. 23	.28	.30	.32	.36
No. 24	.30	.32	.34	.38
No. 25	.32	.34	.36	.40
No. 26	.35	.37	.39	.43
No. 27	.38	.40	.42	.46
No. 28	.42	.44	.46	.51
No. 29	.45	.47	.49	.54
No. 30	.48	.50	.52	.62
No. 31	.51	.53	.55	.67
No. 32	.55	.57	.59	.73
No. 33	.59	.61	.63	.82
No. 34	.64	.66	.68	.95
No. 35	.70	.72	.74	1.30
No. 36	.76	.78	.80	1.50
No. 37	1.00	1.02	1.04	1.70
No. 38	1.30	1.32	1.34	2.00
No 39	2.00	2.02	00	3.40
No. 40	2.60	2.6	.60	5.75

— % discount.

Spring Wire, 2¢ ₩ lb advance.

Copper Belt and Hose Rivets and Burrs—

	Per lb.		Per lb.
No. 5	49¢	No. 11	56¢
No. 6	49¢	No. 12	58¢
No. 7	49¢	No. 13	60¢
No. 8	50¢	No. 14	65¢
No. 9	52¢	No. 15	70¢
No. 10	54¢		

60 % @ 5 % discount.

Tobin Bronze—Rods.

Drawn Rods for Bolts, Forgings, &c.

¼ to 3½ inches inclusive	17¢ ₩ lb
Over 3½ to 5 inches inclusive	18¢ ₩ lb
Piston Rods, Finished True, Smooth and Straight.	
¼ to 3½ inches inclusive	18¢ ₩ lb
Over 3½ to 5 inches inclusive	19¢ ₩ lb

Spelter—

Duty: Pig, Bars and Plates, $1.50 ₩ 100 lb.

Western Spelter	5¢@5¼¢
Bertha (pure)	8¢@9¼¢

Zinc—

Duty: Sheet, 2½¢ ₩ lb.

600 lb casks	7 ¢
Per lb	7½¢

Lead—

Duty: Pig, $2 ₩ 100 lb. Old Lead, 2¢ ₩ lb. Pipe and Sheets, 2½¢ ₩ lb.

American Pig	4.2 ¢@4.50¢
Bar	4½¢
Pipe, subject to discount 20%	6¼¢
Tin-Lined Pipe, subject to discount 20%	10¢
Block Tin Pipe, subject to discount 20%	37½¢
Sheet, subject to discount 20%	7¢

Old Lead in exchange, 3½¢ ₩ lb.

Solder—

⅛ @ ⅛ (Guaranteed)	13½¢ @ 15¢
No. 1	11¾¢ @ 12¼¢

Prices of Solder indicated by private brands vary according to composition.

Antimony—

Cookson	₩ lb 12½¢
Hallett's	" 10¾¢@11 ¢

Aluminum—

Duty: 15¢ ₩ lb.

Guaranteed over 98½% pure	₩ lb .75
Guaranteed 94%@98½% pure	₩ lb .65
Lots under 100 lb	.5¢ ₩ lb additional

Old Metals—

Prices Paid in New York.

Heavy Copper	₩ lb 10 ¢
Light and Tinned Copper	₩ lb 9 ¢
Heavy Brass	₩ lb 7 ¢
Light Brass	₩ lb 6 ¢
Lead	₩ lb 3½¢
Tea Lead	₩ lb 3¾¢
Zinc	₩ lb 2½¢
No. 1 Pewter	₩ lb 14 ¢
No. 2 Pewter	₩ lb 7 ¢
Wrought Scrap Iron	₩ gross ton $17.00
Heavy Cast Scrap	₩ gross ton 10.00
Stove Plate Scrap	₩ gross ton 7.00
Burnt Iron	₩ gross ton 500